SOUTHWESTERN MEDICINE

OFFICIAL ORGAN OF

ARIZONA STATE MEDICAL ASSOCIATION
EL PASO COUNTY (TEXAS) MEDICAL SOCIETY
NEW MEXICO MEDICAL SOCIETY
THE SOUTHWESTERN MEDICAL ASSOCIATION

VOL. XX JULY, 1936 No. 7

ANNUAL SUBSCRIPTION $2 SINGLE COPIES 25 CENTS

Entered at the Postoffice at Phoenix, Arizona, as second class matter.
"Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized March 1, 1921"

OUR ETHICS: PRESIDENT'S ADDRESS

M. B. CULPEPPER, M. D.
Carlsbad, N. M.

(Delivered before the New Mexico Medical Society, at its 54th Anuual Meeting, at Carlsbad, N. M., May 6-8, 1936).

I am inducted into your highest office; the honor sincerely acknowledged personally, is, in my opinion, your recognition of the professional attainment of my immediate associates. I accept the high station with humility and pledge myself, with your assistance and support, to endeavor to advance our science in every possible manner.

I supplement the welcome already extended by our home city. Here the **Master Physician and Surgeon** has practised his art with skillful incisions upon mother Earth.

Holinshed in his "Chronicles" of the late 1500, said: "Great thanks, therefore, be given unto the physicians of our age and country, who not only doth yield and bring forth, but also to procure such as grow elsewhere, . . ." He spoke of herbs.

Rene Descartes in early 1600, commented: "The mind is so intimately dependent upon the condition and relation of the organs of the body, that if any means can ever be found to render men wiser and more ingenious than hitherto, I believe that it is in Medicine they must be sought for."

We salute our forebears of centuries ago, who dreamed not of the medicine of today, yet did prophesy that by medicine the ills of humanity would be alleviated.

The innovations in medicine, since we last met, are well nigh unbelievable and yet, we no longer marvel at each day's discoveries. The three factors which have wrought change will ever remain: Advanced physical comfort, medicine and its handmaid hygiene, and surgery. Medicine stands incomparably first in the mitigation of pain and suffering; to explore its virtues will be our continued aim.

Anticipation of this occasion has revived memories of the classroom of yesteryears. Who among us has forgotten the works attributed to Hippocrates, the Father of Medicine, in the earliest extant Greek medical writings? And you well remember his famous Oath. This interesting document shows that in his time physicians were organized into a corporation or guild, with regulations for the training of disciples, and with an esprit de corps and a professional ideal or ethics, which, with slight exceptions, can hardly yet be regarded as out of date.

One saying in the works of Hippocrates has achieved universal currency, though few who quote it today are aware that it originally referred to the art of the physician: "Life is short, and the Art long; the occasion fleeting; experience fallacious, and judgment difficult."

His doctrine, if such it may be called, said: "The physician must not only be prepared to do what is right himself, but also to make the patient, the attendants and externals cooperate."

We would emphasize this doctrine for in present day practice, mingled as it is with unprecedented commercialized activity, we may, through devotion to duty or other cause, forget the admonition uttered nearly 25 centuries in the past.

In conclusion, let us each rededicate himself to the practice of the age old **principles of ethics,** from which, perhaps we have too distantly wandered. Service to suffering mankind is our mission in life; unselfish service, as expected of us, is the better rendered when our every act co-ordinates with the "consequences from the qualities of men," or in a synonomous term, our **ethics.**

PROBLEMS OF THE CRYING INFANT

J. R. LEMMON, M.D., F.A.A.P.,
Amarillo, Texas

(Read before the 45th Annual Session of the Arizona State Medical Association, Nogales, Arizona, April 23 to 25, 1936).

The infant speaks his own language. The useful sound is the cry in its varied inflections. The doctor will do well to look and listen when a baby cries. The older clinician developed a keen sense of observation and it is this partly lost art that the pediatrician has to rely upon so often, especially with crying.

The varieties: In common every day infantum neonatorum language we have the high pitched "a-wa-anh, a-wa-anh", fading off into a kind of hoarse gutural stifle that defies description. Occasionally there is an interspersed cough which obstetricians recognize as mucus in the air passage. A few nights later (seldom in the day time) we hear the sharp protracted screech, high in pitch, which indicates pain or hunger, or both, and usually diagnosed by grandma as "colic."

There are also screams, screeches, squawks, squalls, snubs, and howls. In older children these cries are often accompanied by tantrums and "head butting" which adds to the discomfiture of the families and physicians. These cries are more or less physiologic denoting pain, hunger, fear, and anger; often they are spoiled from lack of parental control. Spoiled babies early learn to cry for what they desire. When taken up crying stops. The remedy is simple.

Abnormal or pathologic conditions are frequently characterized by a certain type of cry. The observation of the cry, therefore, offers important means of diagnosis in infants. A healthy normal infant seldom cries. One hour per day of intermittent kicking, fretting and crying might be considered normal, serving as a vent to feelings and as exercise.

Persistent violent crying, rather fretful than sharp, is a cardinal sign of plain acute **hunger.** A simple complemental formula will usually solve the mystery and relieve the household. Weighing before and after breast feeding may give the clue to the need for complemental bottle feeding. Thirst may also cause this type of cry, especially in diarrhea.

Babies with chronic **underfeeding,** malnutrition, and nutritional anemia have a whining, peevish, fretful cry. Properly balanced diets of fats, carbohydrates, proteins, vitamins, minerals will usually give relief. Crying and fretting in this type is prone to occur about the fifth month. There is often an associated secondary anemia and the hemoglobin may be as low as 55 per cent. Administration of iron and ammonium citrate with cereals such as Mead's cereal or pablum, rich in iron and mineral soon stops the crying. Cod liver oil and vitamin B are other valuable adjuncts.

I have seen numbers of children around 2 years of age, apparently healthy, who sleep poorly, demand midnight attention, and have a fretful peevish irritable whining. Management of this type requires two or three nights alone, iron and calcium and a proper diet regime. Frequently the whining children have been nursing a night bottle. This must be eliminated.

I have observed peevish crying associated with dirt eating. Iron and calcium plus a diet rich in minerals stops this.

Next to hunger as a cause of crying comes the typical cry of **colic.** Perhaps colic is a misnomer but it is expressive. A better word is gastroenterospasm or enteralgia. The cry is loud and continuous with flushing of face and often circumoral palor; the abdomen is distended and tense; the legs alternately and frequently are flexed and extended in kicking. The cry continues frantically with fists clenched and arms waving or flexed and drawn to the body. The feet and hands are often cold. Finally there is expulsion of gas or feces and the exhausted infant falls asleep. After the attack, the infant may be perfectly normal with no crying. This is the spastic, hypertonic infant and is typical of the old "three months colic" so expressively named by grandmothers.

In the **management of gastro-enterospasm** first eliminate hunger as a cause simultaneously giving one or two drops of a one to 1000 solution of atropine sulphate. One or two doses may produce flushing of the skin, nervousness hyperpyrexia, and distension singly or in conbination. In such an event omit one or two doses then start with one drop. Seldom are two drops required. An enema will help to relieve the temporary distension. I have had

cases with enormous over dosage of atropin and all recovered quickly. The second remedy is **phenobarbital** (luminal), ⅛ to ¼ grain every four to six hours until relief—then as necessary. In my experience acute phenobarbital overdosage does no permanent harm to the infant. Enemas of warm tap water or normal saline or glycerine suppositories may be used for distension. Mineral oil or petrolagar daily for the often present constipation is valuable. Most of these cases have calcium deficiency. I use the powdered calcium gluconate in about 15 grain doses b. i. d. Occasionally one may have to resort to intramuscular injections. Cod liver oil with viosterol and sunlight or ultra violet ray treatments may be helpful.

One should always consider **food allergy.** Milk, eggs, and wheat are frequent offenders. Skin tests often fail to give information. Most of these cases do poorly on any form of cow's milk for a while and are shifted from one formula to another in vain. Most cases will tolerate the food eventually after the use of atropin, phenobarbital, calcium gluconate, petrolagar, etc., and eliminating the allergic offenders.

Acute or chronic **intestinal indigestion** may cause intermittent crying and may be corrected by changing improper formulas. In both bottle and breast fed babies, too frequent feedings may cause crying. Frequent small stools, "spitting up" and gastro-intestinal distress often are associated. Allergy also may partially cause some of these symptoms. The remedy is four hours between feedings.

About the next most frequent crying is the acute frantic screaming of pain from **earache.** Physicians should examine the ear drums of all crying children. If in doubt, puncture an inflamed ear drum.

One should always suspect acute **pyelitis,** especially in female infants who fret and cry as if in pain. Routine urinalyses often disclose unsuspected pyelitis.

Pain or discomfort of less severe nature such as a **pricking pin, itching eczema,** a **wet diaper,** uncomfortable **position** and **overheating, produce** obstinate crying but usually neither piercing nor violent.

Violent paroxysmal crying, as in colic, may be from **passage of stone** or from **intussusception.** Acute intra-abdominal inflammation, as **acute appendicitis,** usually causes a suppressed grunting cry, the effort to guard the intra-abdominal tension being plain. Rectal stenosis anal fissure, and chafing cause screams during defecation.

Diseases of the osseous system cause pain and crying, especially when the baby is handled. Osteomyelitis, scurvy, or syphilitic epiphysitis (Parrot's Disease) may exist. A hoarse or "snuffy" cry, associated with a "cold from birth" or snuffles, with or without pain or handling, always suggests congenital syphilis.

A weak, peevish or fretful cry, more or less constant, often accompanies marked debility, as in **marasmus, tuberculosis,** or **chronic meningitis.** The so-called "cerebral" or encephalic squeal or meningitis is characteristic. The cry of pneumonia or bronchitis is short and catchy; that of laryngitis or croup is hoarse, scarcely audible.

The cry of **intracranial hemorrhage** of the newborn should not be overlooked. This is a moan or "puppy dog whine," associated with failure to nurse properly with signs of intracranial pressure and cyanosis. Whole blood injections or spinal taps may be indicated in severe cases. Obstetricians should be more wary of this cry or moan and give early treatment.

Crying associated with **breath holding** due to temper is not uncommon and is usually during the first to third years of life. The child becomes cyanotic. The mother becomes frantic and gives in to the child's whims and this aggravates the condition. Frequently there is associated calcium deficiency; spasmophilia should be suspected. Calcium therapy, cod liver oil, and diet with proper discipline should be effective. Crying and breath holding and cyanosis in young infant should arouse suspicion of spasmophilia (tetany) or a persistent thymus gland. An x-ray of the thymus gland may be of help. In the event there is a persistent or enlarged thymus, irradiation offers a good prognosis.

I have tried to bring to mind the causes and management of crying. The pediatrician and general man will have constantly to unravel the problems of crying infants and it is hoped that the outline given will help in the solution of some of our daily office problems.

DR. C. V. BARLEY (Tucson, Ariz.): Dr. Lemmon has presented in a simple and sane manner a subject which is of great practical importance to both the general practitioner and pediatrician. It is

amazing how little has been written about "crying" as a symptom and its significance in diagnosis, and yet there is no intelligent mother or physician who does not have ears tuned to the little patient's cry. Here again, experience is the great teacher, and the younger physician must guard against losing sight of the importance of a sign which has guided his elders.

In early infancy, next to the normal, physiological daily crying period, which serves the purpose of permitting lung expansion and giving exercise, the most frequent cause of crying is related to the amount, and manner of taking, nourishment. In spite of improvement in methods of infant feeding, and the more widespread use of concentrated proprietary preparations, the most common faults are underfeeding and excessive air swallowing. Babies are commonly weaned unnecessarily from the breast and made to undergo frequent changes of foods and formulas because of a mistaken idea that the milk "does not agree with the baby." A baby may cry with distress from being "overfed;" this occurs less commonly and does less harm than does underfeeding. Regurgitation may occur in either case, but close observation of the infant and stools, with frequent weighings, will usually determine quickly which is at fault.

Mechanical difficulties in nursing during the early weeks are frequently seen. Often more information can be gained from watching the infant nurse than from a long history and comprehensive physical examination. Mothers differ in their mastery of nursing technique and babies differ in the shapes of their mouths and the co-ordination of the muscles of sucking and swallowing. In cases where the mother has inverted or small, short nipples it is often impossible for the infant to obtain milk without swallowing large amounts of air. It is necessary in many of these cases to stop breast nursing and after mechanical expression, to give the milk from the bottle. It is often necessary to experiment with different shaped rubber nipples and nursing bottles before finding those adapted to the particular baby. Routine instruction of new mothers in the art of giving the baby the breast and bottle may forestall sleepless nights for the baby, parents, and doctor.

Although the character of the cry is often an important positive point in the diagnosis of an infant's malady, the absence of the cry should not be allowed to prejudice one against the diagnosis. I have recently seen a 7 months old infant with a history suggestive of intussusception except that there was no history obtained of violent paroxysmay crying; rather was there a fussy, whining cry at long intervals when she would fall asleep. Examination revealed an ileo-cecal intussusception which had reached the lower rectum.

PATHOLOGY OF PEPTIC ULCER

WILLIS W. WAITE, M. D.
El Paso

The cause of peptic ulcer still remains a mystery although much study and experiment has been given it.

In 1586, Marcellus Donatus published the first clear description of peptic ulcer—a gastric ulcer near the pylorus with obstruction. Of course these findings could be only from a post mortem examination. Considering this was 42 years before Harvey published his discovery of the circulation of the blood and that there was no science of pathology, this seems remarkable. Occasional reports of ulcers from which perforation or hemorrhage resulted continued to appear; but it was over 200 years before a clear description of the morbid anatomy and symptoms of gastric ulcer was given. This was by Matthew Baillie of London in 1793. Couveilhier, in 1856, presented two memoirs, representing 30 years of study and he is accredited with presenting the best description of this disease. He first distinguished between ulcer and cancer, but failed to even mention duodenal ulcer.

Abercrombie, of Scotland, was the first to recognize duodenal ulcer—1828. Virchow, and others did not seem to recognize it. Gradually the morbid anatomy and the histological changes of peptic ulcer were worked out. No great advance could be made in diagnosis or treatment until the pathology was fairly well understood. One of the greatest aids to diagnosis was the advent of roentgenology. With better clinical observations, the diagnosis became more exact and with the development of modern surgery operations on the stomach and duodenum became more common, and more and more material became available for study. Thus the pathology became better understood.

As relatively few persons die from peptic ulcer, it took a long time for anyone to see enough specimens to learn their meaning and be able to coordinate the pathology with the clinical picture. Even at the present time, probably few get to see many peptic ulcers. In most cases that are operated on for ulcer, the ulcer itself is not removed so there is seldom a surgical specimen for study. In our post mortem service, we have seen a number of specimens and perhaps if every case was examined carefully for ulcer we would have seen more. Nearly all ulcers we have seen have been in the duodenum.

In reviewing 1100 post mortem records, I found 7 cases of peptic ulcer, 6 in the duodenum and 1 in the stomach. The stomach case was interesting for there was one chronic ulcer and several acute ones. The patient died from an acute arsenical dermatitis and pos-

sibly the acute ulcers in the stomach were comparable to the dermatitis of the skin. The chronic ulcer was round with raised indurated borders giving it a punched out appearance. The acute ulcers were soft with no induration about the borders and had the appearance as if the mucosa had been dissolved in the ulcer areas. In another case of a child dying from burns, the mucosa of the stomach was covered with small pin head sized superficial ulcers. There was no induration and the mucosa in the ulcer areas seemed to be just dissolved out.

Probably most gastric ulcers heal without leaving scars, but some remain chronic, with the ulcers getting larger and the walls more indurated. We had a physician with several chronic ulcers who died of hemorrhage. Here the walls were indurated, and the base was thickened. Why one of these should have bled is not easy to tell but probably a vessel became exposed.

In the 6 cases of duodenal ulcer and one that did not belong to the series, 5 died of perforation and 1 of hemorrhage. Several had more than one ulcer. In one there was marked induration and thickening about the ulcer and pylorus. He had had symptoms for several years. In all cases there was evidence of recurrence and some had scars. Some had a punched-out appearance but as a rule there was not as much thickening as in the stomach ulcers.

Why some ulcers bleed and others perforate must be due to the blood supply of the bases. If there are no large vessels in the base the ulcer may progress until it perforates or heals. In the duodenum the ulcer may be against the pancreas and may bore a hole into it. At other times it grows slowly and adhesions form on the outside of the duodenum, retarding perforation, perhaps preventing it entirely.

Probably our best knowledge of ulcers comes from the large surgical clinics. For instance, according to McCarthy at the Mayo Clinic, from the years 1889 to 1933 inclusive, there were 1620 specimens of chronic or subacute gastric ulcers and 1453 specimens of duodenal ulcers, a total of 3073 specimens in 44 years. Besides these there were 2344 cancers of the stomach. Not all pathologists will agree with McCarthy as to the frequency of cancer developing in chronic ulcer, but it will be agreed that he has had a large amount of material to study, perhaps more than anyone else, and his conclusions should bear weight. If his conclusions are correct, the proper treatment of all ulcers of the stomach should be excision for in so doing many cases of cancer are cured. Just why so many duodenal ulcers are removed at the Mayo Clinic is not stated, but it is apparent that not nearly all of them are removed.

Our knowledge of peptic ulcer is the result of long continued, hard study by pathologists, clinicians, surgeons and experimental pathologists. We know that most cases heal without serious difficulty but we want to know the cause so that it will be possible to prevent the disease entirely or to cure it more readily and surely. If the group of workers mentioned continue to work in harmony in the future as they have in the past we believe the cause of peptic ulcer will be found.

It may prove to be due to a food deficiency or to an allergic condition, or to tobacco or to some other cause.

THE 'FILTRATE' TREATMENT OF ACUTE GONORRHEA: CASE REPORTS

W. R. JAMIESON, M. D.
El Paso, Texas

The treatment of acute gonorrhea is based primarily on the surgical principle of drainage of a purulent cavity and the building up of immunity. A contemptuous attitude towards this disease is wrong.

Ordinarily a gonococcal infection begins mildly and if treatment is not overdone will continue to run a mild course, without complications. An injection should be of the blandest material. Even yet, it is considered good therapy by some physicians to give an injection that burns greatly, on the theory that the stronger the treatment, the quicker the cure. Such treatment may produce, edema of the prepuce, increased discharge, great burning on urination, and extension to the posterior urethra, seminal vesicles and epididymises.

If the infection is very acute, it is best to dispense with injections until it subsides. During this period the drinking of large quantities of water to cause frequent urination to keep the

urethra drained of pus and the bathing of the penis in water as hot as can be borne constitute the treatment. Later, a mild injection such as a 3 to 5% solution of argyrol may be used.

Why alcohol exercises such a deleterious effect on gonococcus urethritis is not known. Violent exercise and driving motor cars are forbidden. Petting parties are taboo, as the congestive effect therefrom on the genitals is so marked. The patient must be impressed that he has a disease that can easily convert him into an invalid and that he must follow his physician's directions. He is not cured, or even non-infectious because the discharge disappears.

I have used the Corbus-Ferry filtrate intradermally on a small number of cases which I report.

A male, 18, received on Sep. 13, .05 c.c. with moderate reaction, and a week later, 0.15 c.c. with a similar reaction. The dose was increased 0 .05 c.c. weekly until 0.3 c.c. was given, and twice repeated. He was discharged Nov. 2nd, as cured.

A male, 22, had gonorrhea 1 year ago. On Dec. 13 he came with acute epididymitis, received filtrate weekly, and was discharged as well on Jan. 23rd.

A male, 17, having had a neisserian infection for a month, was given 9 doses of filtrate at weekly intervals. Apparently he was cured on Nov. 28; but he returned on Dec. 9 with a few gonococci in his smear; he was discharged as well on Dec. 19th. The extra length of time needed to cure this case was occasioned by his non-observance of orders.

A male, 26, with acute gonorrhea was given 12 doses at weekly intervals with apparent cure.

A male, 31, received 10 weekly doses of filtrate resulting in disappearance of the discharge and clear urine with many strings. Another month's treatment cleared up the strings.

A male, 24, contracted gonorrhea 2 months before coming for treatment. He had had a previous infection in 1930. He was given 7 doses of filtrate and was discharged 10 days later as cured.

A female, 28, married, complained of burning in lower abdomen, frequency and urgency and loss of weight (12 lbs.). Uterus was retroverted 3rd degree and very tender. She had profuse cervical discharge, containing gonococci. She lived out of town and was referred to her family physician with directions for treatment. A month later, smears taken just after her period were negative.

A male, 25, contracted the infection 3 months ago and developed acute epididymitis 2 months later. Left epididymitis was swollen and tender with left seminal vesicle palpable and tender. He was given 6 doses of filtrate and did well until the development of a prostatic abscess 5 weeks after coming for treatment. The abscess broke into the urethra while I was massaging the prostate. He was discharged as cured after several more weekly injections.

That judgment must be exercised in the dosage of filtrate was proven to me by the following case: A male, 21, presented himself with an acute anterior urethritis on Dec. 30th. He was given 0.1 c.c. of filtrate which was double the initial dose I usually give, although it is the upper limit given in the literature. There was not much reaction and the next week he was given 0.2 c.c. which occasioned a 4 plus reaction at the site of the injection. A day later he appeared with an intense edema of the prepuce and a paraphimosis. The fluid was evacuated by puncture, but promptly refilled. Finally, an incision was made to relieve the paraphimosis. The next dose was cut to 0.15 c.c. with moderate reaction. Today (Jan. 27) there is practically no discharge and the paraphimosis is gradually receding.

From these few cases it will be seen that we have a powerful agent in the treatment of this disease, but not to be used in a haphazard manner. It certainly warrants further investigation.

ACUTE GASTRO-INTESTINAL ALLERGY MIMIC OF SURGICAL ABDOMEN

L. O. DUTTON, A. B., M. S., M. D.
El Paso, Texas

My thesis is that rarely does an intra-abdominal condition present itself in which the diagnostitian can afford to disregard allergy as a possibility; and the corollary of this is that many conditions which appear to be surgical

are in reality allergic in nature and do not require operation.

In the past 25 years the experimental phases and clinical study of allergy have advanced so that it is now time for allergy to be considered in the study of most patients. Almost every tissue in the human body may act as a shock organ. A much greater proportion of the population therefore, possesses the allergic constitution than formerly suspected. It seems that medical practitioners in general should be alert in considering the differential diagnosis of many conditions and accord allergy proper consideration.

We must cease to hold the attitude that the allergic patients belong only to those who style themselves allergists and we must become conscious that allergy is truly a fundamental phenomenon, playing as important a part in the production of illness as does infection, neoplastic growths, and endocrinopathies. True, the technique of certain steps in the diagnosis and management of the allergic patient requires special training, reagents and equipment. Likewise, the bacteriologist or pathologist only is equipped to study certain phases of infections or neoplastic diseases, yet infection and tumors are not excluded from the routine consideration in medical histories and examinations.

Failure to consider allergy in differential diagnosis is particularly common in the field of abdominal surgery. Most surgical conditions of the abdomen are simulated by allergic reactions and far too many abdomens are explored without consideration of allergy to account for the symptoms.

I first became interested in this subject as pathologist for a busy surgical hospital; it became more and more a mystery how innocent appearing appendices could cause symptoms sufficiently grave to precipitate patients to the operating table and surgeons into the abdomens. Many talks were had with the surgeons; the conclusion was forced that innocent appearing appendices do cause clinical appendicitis—but how? By what mechanism could one of these organs with practically no pathology produce symptoms indistinguishable from those in which there was definite evidence of inflammation? In search of the answer to this question, many sections of appendices were studied microscopically. In numerous sections were two very definite findings, the significance of which I did not then appreciate.

The two observations were edema and eosinophilic infiltration. The significance of eosinophilia in allergic reactions in other tissues became establshed about this time and I explored that field for the explanation of the problem. It was at once apparent that allergy alone would not explain all the findings. Many appendices with an eosinophilic infiltration also presented definite evidence of infection. Gradually as my experience grew and I studied the histories of these patients, the conception of the inter-relationship of allergy and infection concreted. It is my present belief that either infection or an allergic reaction may initiate symptoms referable to the appendix or other tissues, and that the allergic reaction is more frequently the first. It is also my conviction that many appendices are removed before infection develops. I believe that proper attention to the allergic phase might bring relief to many patients without operations. Many patients are not relieved by surgery. Who is not familiar with the story of the overoperated patient? I list some of the symptoms that have been proven to have been definitely caused by allergic reactions to foods. This list is taken from Rowe. It has been repeatedly confirmed by my experience as well as that of others who are investigating the subject.

Canker sore, coated tongue, heavy breath, distention, belching, epigastric heaviness, sour stomach, burning, pyrosis, nausea, vomiting, diarrhea, mucous colitis, constitpation, "gas in bowels," pruritis ani, pain and soreness in epigastrium, upper right quadrant, upper left quadrant, mid portion of the abdomen and lower quadrants, colonic soreness and ulcer type of pain.

General symptoms are toxicity, weakness, irritability, nervousness, mental dulness, and depression, general aching, fever, etc.

From this list it is apparent that certain abdominal symptoms might easily be interpreted as acute or chronic appendicitis, ulcer, cholecystitis, cholelithiasis, renal colic, or even in extreme cases, obstruction. Of 150 cases in whom these symptoms had appeared, 47 had had operations without permanent relief.

Statistics are sometimes misleading. Those of the surgeons rarely include adequate follow-up, while those of the allergists and internists have been without first hand information of the condition at the time of the operations. Both are without the benefit of knowing what would have been the outcome in each particular case by treatment or operation other than that employed. Probably my composite impression from the intensive study of suitable cases is more nearly correct than that derived from the study of long lists of statistical evidence.

Illustrative of my general conception of these cases is the following case report in brief.

A white female, age 36, 6 years ago without previous gastro-intestinal symptoms of moment, developed the classical symptoms of acute appendicitis. There was pain, tenderness and some rigidity in the right lower quadrant, nausea, vomiting, temperature of 101, and total white count of 17,000. She was taken to the hospital within the 12 hours after onset of the symptoms. She was seen by a surgeon and an internist who agreed on immediate operation. A senior surgeon of the group was called who was not convinced that the condition called for operation and it was decided to wait for a few more hours. Within 12 more hours all of the symptoms had disappeared and the patient was feeling well. During the following years there occurred occasional attacks of abdominal pain which gradually became more and more frequent and severe. These attacks were characterized by sudden onset, absence of nausea except infrequently, no elevation of temperature, normal white blood count, definite tenderness over the appendix, and slight rigidity. The pain required morphine for relief. There was generally no return of pain after the first hypodermic. Allergy as a cause of the condition was considered. Skin testing had been done and dietary control had not resulted in relief from the attacks.

The above summary is taken from a history actually compiled by a consultant after investigating the case as much as he desired to arrive at a conclusion. Operation was advised. What was not learned by the consultant during his anamnesis and what I consider to be important is as follows:

Family history of allergy (obtained with difficulty); frequency of urination with absolutely negative findings in the urinary tract after exhaustive studies; the normal total white count was accompanied by an eosinophilia of from 6 to 15%; preceding all of the attacks, there was a variable period of intense vaginal pruritis; the skin tests were of a border line type occasionally seen in definite allergic persons; and dieting had been haphazard and insufficient for the desired purpose.

After a period of further investigation and realizing that allergy was probably an important factor in the case, operation was done because the attacks had become so frequent that extreme measures seemed warranted. The appendix was found slightly inflamed and slightly fibrosed. It was bound by adhesions to the tube and both were removed. There was an uneventful recovery. The attacks have continued as before, exactly similar in every detectable respect. The first post-operative attack of "appendicitis" in my mind confirmed the belief that there existed a marked food allergy. Efforts were redoubled to find the offending factors and these have with fair completeness now been identified. There has been no attack since the operation that was not preceded by the ingestion of one or more items that had given positive skin reactions and had also been doubly placed under suspicion because of their occurrence in the diet previous to attacks that had occurred before the operation. It had also been found that if given early adrenalin and ephedrine controlled the pain quite as effectively as had morphine.

Similar stories have been encountered in my experiences many times—not only in regard to appendicitis, but with gallbladder, ulcer and kidney conditions.

A diagnosis depends upon: A careful history, including the allergic history; and a careful physical examination and blood study, giving weight to those slight variations caused by allergy.

The treatment is: Symptomatic—adrenalin, ephedrine, and opiates; fundamental — diet along allergic lines; and surgery if necessary.

A few pertinent remarks concerning the management of allergic conditions in general and food allergies in paritcular are: The patient should be accorded the benefit of a painstaking history and general investigation. Skin test should be complete, covering the items in the diet and environment. Scratch tests should be done first and then intradermal tests on those

that were negative by the scratch method. The tests should be interpreted by one of sufficient experience to know the meaning of the wide variations in type and degree of reactions encountered. The materials used for testing should be potent. Skin tests should not be considered final, but should be accorded the value given to other diagnostic procedures. Following the tests, it is frequently necessary to experiment with the diet for long periods and perhaps it is necessary to repeat certain tests. Unless this attitude concerning allergic management is closely adhered to, one is certain to obtain many more failures than successes. We feel sure that the major portion of the discredit that allergy receives by physicians and laymen alike is a failure to properly observe the conditions outlined.

In many cases both allergy and infection play a part; allergy predisposes to infection and infection may injure a tissue so that allergy manifests itself. I realize that there are great difficulties in making correct diagnoses; many times one can not deny operation because of the risk involved in delay. I contend, however, that too many diagnoses of acute or chronic appendicitis are made, and that many patients are operated upon without regard to the sign-post pointing to allergy as the basis of the complaints.

Though allergy lives up to its name of "strange disease" it is not uncommon.

PRIMARY INFECTION, ALLERGY, AND REINFECTION IN TUBERCULOSIS OF CHILDREN

B. P. STORTS, M. D.
Thomas-Davis Clinic
Tucson, Arizona

(Presented to the 45th Annual Session of the Arizona State Medical Association, April 23-25, 1936.)

Primary infections with tubercle bacilli produce essentially the same changes in all ages and all races.

In children of today the common location of primary foci is in the thorax though it may be the abdomen, tonsil, cervical lymph nodes, and elsewhere. Inhaled tubercle bacilli lodge in the alveoli; in the first exposure they meet with little resistance. The bacilli multiply and produce irritation and a pneumonic infiltration. The bacilli then spread along the lymphatics to the hilar nodes. This lymphangitis and lymphadenitis plus the primary focus make the primary complex. The primary focus may be large or too small to detect by ordinary clinical or roentgenographic methods—the lymphadenitis being the only reaction detectable and this only after the onset of allergy.

From the time the bacilli are inhaled two things happen: First, resistance, and second a sensitivity of the body to the bacilli and the tuberculotoxins. With the allergy which requires from three to seven weeks from the time of the bacillary invasion, certain things are manifest. First and most marked are the changes in the lung and hilar nodes: The perifocal reaction is intense and may be extensive even involving an entire lobe producing the so-called epituberculosis; and the hilar nodes enlarge. The tuberculin reaction is now positive. There may be a fever of a few days' duration, and according to Wallgren' erythema nodosum may develop.

Physical signs may or may not be positive. The x-ray usually will show the enlarged nodes. The onset of the acute primary infection and of the allergy are often overlooked, perhaps merely being too mild to be recognized.

Clinically the child or infant may have fever with evidence of upper respiratory infection. Only a tuberculin test, a roentgenogram of the chest, or finding the tubercle bacilli in the gastric washings will identify the true condition.

The tuberculin test is obviously the simplest method of diagnosing tuberculous infection. There are a number of ways of making the test. The purified protein derivative—P. P. D. —is the most standardized. The Mantoux, consisting of dilutions of old tuberculin, is good. Both tests are made by intradermal injection. The von Pirquet test outfit may be used in the home and the tuberculin is fairly stable. It requires only a scratch for application. Recently I have used a tuberculin ointment as devised by Moro; it is the simplest and easiest of all to use. A small amount of the ointment is rubbed on the skin and the reaction is read in four or five days. In private practice this advantage is easily appreciated.

During acute stages of scarlet fever and measles, the tuberculin reaction may be negative in a previously allergic child, but may be a positive reaction two weeks later—the so-called delayed positive reaction.

With the diagnosis of the primary infection made, should treatment follow? During the acute stages yes; after this period no special therapy beyond good hygiene seems essential. First and most important is the prevention of further exposure to tubercle bacilli. This may mean taking the child from the home. Studies of Meyers indicate that many children are infected at school. The younger the child the more apt are we to find the source of infection in the home.

While fever exists the child should be kept in bed. Wallgren[2] believes that rest during the acute primary infection may prevent tuberculous meningitis. He reports that in 166 autopsies of cases of tuberculous meningitis, 82.6 per cent had fresh primary tuberculosis. He studied 60 cases of tuberculous meningitis in which the dates of the infections or the first manifestations of primary tuberculosis were known. In two-thirds of the cases the meningitis developed in the first and second months after the onset of allergy—in most cases about six weeks.

Stewart[3] adds that tuberculous meningitis, miliary tuberculosis and tuberculous pleuritis develop in some children shortly after their first infection with tubercle bacilli. He adds a fourth danger is that virulent tubercle bacilli from multiple foci may give rise to superinfection as of the bones, serous membranes and lungs.

In spite of these dangers, most children weather first infections, with comparatively little trouble—many going unrecognized. Meyers states that differences are not apparent between the treated and the untreated cases. Though opinions differ neither Stewart nor Meyers holds that successfully weathered first infections create immunity against active disease later in life. Stewart, in a study of 11,369 children, of which 4,031 had positive reactions at the beginning of the study, found 52 cases of phthisis developing in the tuberculin positive group and seven in the group originally negative. He concludes that phthisis develops exclusively in tuberculin-sensitive persons.

Meyers[4] states that 10 per cent of all children with positive tuberculin reactions will develop the adult form of the disease between the ages of 10 and 21. The lesson is that after the age of 10 all such children should be x-rayed annually or oftener.

At any rate those who believe that successfully weathered first infections create immunity to adult phthisis will admit it is a dangerous form of immunization. B. G. G. vaccination offers such conflicting reports that for private practice it is not yet worthy of trial.

Opinion is divided on the healing of the primary infections with final disappearance of the allergy. Meyers and Harrington express the view that tubercle bacilli may live in the center of the foci indefinitely and that once the tissues are allergic they remain so. As children who have reacted to tuberculin tests do get so they do not respond, it is thought that many children become tuberculin-negative. Kraus[5] states that allergic response may not be visible in the skin but may be present in the tissues surrounding the primary foci. Paretzky[6] studied 80 children who had positive tuberculin reactions that later became negative; 21 of these he followed from the negative stage through the positive and back to negative—the cycle averaging nearly three years. I have followed 86 children in a closed school, except for the summer months, through three years of tuberculin testing. Originally there were 42 positives; 13 have since become negative, and five negatives tuberculin sensitive. Of particular interest were two children from a home harboring open tuberculosis; one was negative and the other positive at the first test, yet in two years they reversed.

Tuberculin sensitivity may disappear, so far as tests may determine; but I repeat a child once having a positive test should be periodically x-rayed. While phthisis is relatively rare below the age of 10, it occurs and should be treated as vigorously as in the adult.

Meyers believes that children of all races respond to the first infections equally well and that in Negro, Mexican and Indian children with destructive lesions due consideration has not been given to the reinfection aspect. My present impression is that Mexican children suffer more severe forms of the primary infections than do white children.

Primary tuberculous infections in children are too often overlooked because not thought of or too mild. Positive tuberculin tests reliably indicate systemic sensitiveness to tuberculin which in turn means tuberculous infection.

Recoveries from primary infections do not mean that reactivations or reinfections may not subsequently develop, especially if the children are kept with "open" cases.

Children once responding positively to Moro or other tuberculin tests should be frequently x-rayed even though subsequent tuberculin tests are negative as 10 per cent develop tuberculosis before they reach 21 years of age.

REFERENCES

1. Wallgren, Arvid: Primary Tuberculosis in Childhood, Jour. Dis. Child. 49:1105, 1935.
2. Wallgren, Arvid: Some Aspects of Tuberculous Meningitis and the Possibility of Its Prevention, Jour. Ped. 5:261, 1034.
3. Stewart, Chester A.: Pathogenesis of Tuberculosis in Man. Certain Governing Principles and the Casual Relationship Exising between Primary and Reinfection Types of the Disease, 50:853 Oct., 1935.
5 Kraus, A. K.: Human resistance to Tuberculosis at Various Ages of Life, Am. Rev. Tuberc. 11:303, 1925.
6. Kraus, A. K.: The Significance of Allergy in Tuberculosis, Tr. 17th annual meeting, Nat. Tuberc. Assoc. 348, 1921—from M. Paretzky.
7. Paretzky, M.: The Disappearance of Specific Skin Hypersensitiveness in Tuberculosis, Am. Rev. Tuberc. 33:370 March, 1936.
8 Smith, Charles Hendee: The Tuberculosis of Childhood, Ann. Int. Med. 8:1090 March 1935.
9. Stoloff, E. Gordon: The Chest in Children, Ann. Roentgenol. 12: 1930.

THE SURGICAL TREATMENT OF PULMONARY TUBERCULOSIS

C. A. THOMAS, M. D.
S. C. DAVIS, M. D.
Thomas-Davis Clinic
Tucson, Arizona

(Presented to the annual session of the Arizona State Medical Association, April 23, 1936.)

Pulmonary tuberculosis is a surgical disease from the time the diagnosis is made. Patients with pulmonary tuberculosis are as much entitled to surgery as are patients with acute appendicitis. Many good surgeons, however, and many more internists are still classifying tuberculosis into surgical (bone, joint and kidney lesions) and pulmonary disease. The day has passed when surgery is radical treatment in appendicitis. The day has also passed when surgery is radical treatment in pulmonary tuberculosis. The surgical treatment of pulmonary tuberculosis is the greatest advance in the treatment of this disease since the sanatorium or bed rest regime was established almost 50 years ago.

The treatment of pulmonary tuberculosis is no longer a one-man job; it requires the combined judgment and skill of a well-rounded staff of at least one or two internists and surgeons trained in the use of all collapse measures, an eye, ear, nose and throat man, a gastro-enterologist, and radiological and clinical laboratories. At the Southern Pacific Sanatorium of 100 bed capacity in Tucson, we have such a staff, and we carry from 80-90 per cent of all cases under some form of collapse therapy at all times. The only patients not under some form of collapse are the new arrivals or those who are considered entirely hopeless.

Progress in collapse therapy has been more rapid than in any other branch of surgery or medicine. The American Medical Association last year made a survey of 502 tuberculosis institutions in the United States, with a capacity of 74,083 beds, and reported astounding progress in collapse therapy in these institutions. During the year 1934, the aggregate of pneumothorax refills were 561,567; initial pneumothorax administrations were in 16,401 cases; phrenic nerve operations were done in 7,695 cases; thoracoplasties were done in 2,935 cases; internal pneumolysis was done in 929 cases and oleothorax administrations amounted to 2,076. They also report that all new sanatoriums are adding surgical units and arranging their staffs for surgical measures. So widespread and universally accepted has been the surgical program throughout the world that I quote from an article in December, 1935 THORACIC SURGERY by M. Harriston Davies of London:

"It is only a comparatively few years ago that the surgical treatment of pulmonary tuberculosis was still regarded as wholly impracticable except by a very few, farsighted enthusiasts. Since then such enormous advances have been made that it is only a very small arteriosclerotic minority that refuses to recognize them."

While collapse therapy is the only hope in a large percentage of advanced cases, and offers even greater chances of recovery to the moderately advanced patients, the fact that its most effectiveness is in the earliest lesions, seems to

have been overooked by many of the pioneers in this field. That no other disease is permitted to extend its ravages before applying effective treatment seems to have had no weight. Many men who grasped eagerly collapse therapy in advanced cases were reluctant until recently to apply these effective measures in early cases.

The intelligent application of surgical measures in the earliest possible stages of all cases of this disease would soon render obsolete the operations of thoracoplasty, extrapleural pneumonolysis and such other procedures as are indicated in far advanced cases. The need for thoracoplasty in any individual's case, is positive evidence of past mistakes. Most men who devote themselves to the treatment of pulmonary tuberculosis have come to use at least some of the collapse methods; however, there are a few recalcitrants who have refused the light and should possibly be grouped among the arteriosclerotics of Davis. These, however, are not in sufficient numbers to retard the procession; they only sufficiently resist to make the progressive ones more conservative, and progress more sure. There are 10 different proven procedures in the surgical treatment of pulmonary tuberculosis:

Sanatorium regime, bronchoscopy, pneumothorax, oleothorax, phrenic interruption, temporary or permanent scaleniotomy, internal pneumonolysis open or closed (Jacobeus)—extrapleural pneumonolysis, multiple intercostal neurectomy—temporary or permanent—and thoracoplasty—partial or complete.

The collapse or surgical program in pulmonary tuberculosis contemplates the use of these different procedures in suitable cases according to the pathology and the condition of the patient. They are used singly, in combination and successively. Treatment is started in each case whether early or late with the one idea of arresting the diseased process at the earliest possible moment and to render the patient sputum and bacilli free. Judgment dictates that preference be given to the controllable procedure which offers a reasonable hope of cure—the case in early limited invasions, unilateral or bilateral.

Judgment and experience dictate that no time should be wasted after procedure fails to produce results. It promptly should be supplemented with another procedure or withdrawn at once, and a different procedure offering a greater hope of being effective instituted. Much valuable time is wasted and many lives sacrificed by depending on an ineffective or partially effective measure when a completely effective measure is available and suitable. Contrary to the old teaching, time is really the essence of success in treating this disease. The application of these ideas calls for constant and intelligent team work in each patient from the time he comes under observation.

Nothing short of a complete program using the different procedures according to the indications in each case will bring the maximum results in all cases. Individual lesions and their distribution determine which one or combinations of procedures should be used. Bilateral lesions are not contra-indications for surgical treatment but only make it more imperative.

No indications for nor description of the technique of the minor procedures is undertaken in this paper. These are fully dealt with in text books and current literature. Since thoracoplasty in its modern aspects has not appeared in the text books it will be dealt with briefly.

Thoracoplasty: The original or German conception was a massive collapse of one hemithorax at one operation. The attending 50 per cent mortality was prohibitive even though some of the surviving patients were cured. Notwithstanding this high mortality, the idea was not abandoned, but rapid succession of changes ensued with two ideas in mind: Reduction of mortality and making the operation more effective. Instead of a 50 per cent mortality with a few cases cured, the procedure has been so perfected that today in the best clinics of the United States, it carries as high as 85 per cent cures and a mortality no greater than have other major surgical procedures.

As late as three years ago, these figures were not considered possible. The changes and modifications of the original operation, which have brought about these results are too numerous to mention, but a few of the more important steps will be enumerated with short description. As we look in retrospect on the criteria of scarcely three years ago, the improvements up until today have been truly dramatic.

The operation as originally planned was from

below up—that is commencing at the 11th rib and removing short sections of all ribs including the first at one operation. The location and extent of pathology was disregarded. The operation is now done from above downward and adapted to the pathology.

The present incision, devised by Alexander, starts at the top, as did the paravertebral incision, and swings around the scapula to the posterior axillary line or farther in heavy persons. The scapula is raised by cutting the upper digitations of the seratus-magnus muscle exposing all the ribs from the 1st to 7th. This incision permits removal of long sections of ribs, thus making the operation effective in a large percentage of cases including those with giant cavities.

The number of stages was increased to two, and later, the multiple stage procedure of Hedbloom was adopted.

More wisdom in the selection of cases added greatly to the reduction of mortality and is still one of the intriguing problems not entirely solved. It has been proven, however, that patients with productive lesions lend themselves best, and that acute, widespread, exudative lesions are a specific contra-indication to thoracoplasty. It has also been learned that no patient should be operated upon until he has definite resistance to the infection.

The operation is adapted to the pathology in each individual case; that is, in apical lesions a partial thoracoplasty is done, collapsing only the apex, conserving all good lung possible. This, only a short time ago, would have been considered the rankest heresy.

Removal of all of the 1st rib, including its costal cartilage, all of the 2nd and 3rd ribs, including their transverse processes, costal cartilages and a portion of the sternum, if necessary, make it possible to close the largest apical cavities which by the older method, could not have been closed. These ribs are removed by the technique of Alexander—essentially as follows: Through the posterior incision, all of the first rib and long sections of 2nd, and one-half of the 3rd ribs, with their transverse processes are removed at the 1st stage. Later, after the chest wall has stabilized (two weeks or better still, three or four weeks), the second stage is done, removing another section of the remaining portion of the 3rd rib and long sections of 4th and 5th ribs and their transverse processes. Subsequently, an anterio-lateral operation is done at which the 1st costal cartilage and the remaining portions of the 2nd and 3rd ribs with their costal cartilages, are removed; in this way the mortality is kept low without reducing the effectiveness of the procedure.

The painting of the periosteal surfaces with 10 per cent formalin to retard regeneration of bone is another decided advance. More time between stages of operation is thus possible. This has been no small factor in reducing the mortality. Formerly without the use of formalin on the periosteal surfaces, it was necessary to do the stages in rapid succession, concluding the whole series of operations in three to four weeks.

If the whole series was not completed before regeneration of bone, the best collapse was not obtained. With the use of formalin, 30, 60 or even 90 days delay is permissable, and in many cases advisable.

Operating time, which is obviously important, has been greatly reduced; limited operation and team work are the two factors.

In partial thoracoplasty, where it is necessary to remove sections of only four, five or six ribs, resection of a portion of the lower angle of the scapula, as brought out by Holman, to make it fit snugly onto the decostalized pleura has been found available. The seating of the scapula in this manner aids materially the collapse, limits paradoxical respiration, and prevents painful friction between its lower angle and the 6th and 7th ribs.

Pre-operative treatment as regards emptying of cavities and bronchi of sputum before anesthesia has proven of great value in preventing bronchogenic spread.

Post-operative treatment, which is most important, has lost many of its horrors since the modern operation has been adopted. Blood transfusions and oxygen tents are seldom needed. Morphine without atropine is administered freely. It is important to have the patient cough at regular intervals for the first 48 hours and to raise the same amount of sputum daily as before operation. Five per cent sodium chloride solution 300-500 c.c. followed by 3000 c.c. or less of normal saline or Hartman's solution intravenously have been found to lessen

nausea and vomiting and to prevent abdominal distention. Since we have used these solutions, and discontinued the use of glucose, we have had no serious case of ileus, and convalescence was usually comfortable and uneventful.

SUMMARY

Pulmonary tuberculosis is a surgical disease best treated by collapse measures.

Early diagnosis and early collapse will reduce morbidity and mortality to a minimum.

The best results in collapse therapy are obtained through cooperation of internist and surgeon—in other words, group practice.

Thoracoplasty has undergone many and rapid changes during the last five years, which have reduced the mortality to a par with other major surgical procedures, and effects cures in 85 per cent of the operated cases.

DIAGNOSIS OF EARLY TUBERCULOSIS

VICTOR STRONG RANDOLPH, M. D.
Phoenix, Arizona

(Presented before the 45th Annual Session of the Arizona State Medical Association, April 23-25, 1936.)

Knowledge of the diagnostic points of pulmonary tuberculosis is so widespread that it seems almost a waste of time to reiterate them. Yet well-known paths are sometimes a little carelessly and thoughtlessly trod. In a disease so destructive of health and life and wasteful of time and money as is tuberculosis reviewing the early signs which may point to simple and effective and almost preventive treatment may be worth while.

I stress the urgency of careful, complete examinations, reexaminations and continued observation of individuals who present even one of numerous evidences of tuberculosis.

The first fact of importance is a history of contact. We have recognized that more fully in children than in adults; but it is important also in adults. We often see tuberculous patients who have had no known contact. But that patient who has had definite contact should be regarded with more suspicion and should be more carefully observed than his symptoms may at first seem to warrant.

The history is important too as regards loss of vigor, loss of interest or failure to carry out accustomed activities, unaccustomed tiring, loss of weight, or inability to regain weight after stress or acute illness, loss of appetite or enjoyment of life. These things go with the insidious onset of tuberculosis. Later comes afternoon fever usually in the insidious case. In the more acute onset fever and night sweats may come first.

More specific symptoms pointing to tuberculosis are pain in the chest and cough. Transient pains may prove to be of no importance but the physician should at least determine a cause for the pain whether due to overexertion, costal strain, a chronic or acute bronchial and accessory pulmonary infection, true neuralgia due to focal infection or a more serious condition such as heart disease or malignancy. Possibly the older practitioners were more astute than we in ferreting out the cause of pain. True fibrinous pleurisy always means definite infection in the chest and most often tuberculosis if pneumonia is ruled out.

Cough may come from a variety of causes but if the heart is excluded it is usually from the larynx, bronchi or lungs. I have seen one actual case only of severe paroxysmal night cough in an old man whose uvula, elongated and edematous, actually rested, when relaxed, on the vocal cords. Shortening the uvula relieved the cough, but this cause must be very rare. Cough coming first from the larynx is also comparatively rare except in acute laryngitis which quickly subsides. Primary cough caused by tuberculosis of the larynx also is rare. Polypi and other growths in the larynx are uncommon. I believe also that cough caused by dropping of secretions into the nasopharynx from the sinuses is uncommon and that no cough should be ascribed to this without careful demonstration of its existence.

Cough from an acute bronchitis is more common, but if the physician assigns this cause for a patient's cough, reexamination must be done at least monthly for three months to be sure there is not some underlying more serious etiology.

Cough due to hay fever is not uncommon but should disappear quickly under appropriate therapy.

Chronic bronchitis and bronchiectasis with or without asthma commonly cause cough. These conditions can be readily differentiated

from tuberculosis by lipiodol injections and x-ray film. Occasionally tuberculosis is diagnosed when examination would show bronchiectasis and of course more commonly bronchitis has been diagnosed when the actual condition was tuberculosis.

The raising of sputum always means intrathoracic trouble — bronchitis, bronchiectasis, abscess, tuberculosis, other rare infection or malignancy. I do not believe that patients raise sputum from the traehea or bronchi because of droppings from the sinuses into the nasopharynx.

Unaccustomed dyspnea on exertion may rarely be a first sign of tuberculosis.

Blood spitting is one symptom that should put a physician definitely on guard. Pyorrhea as a cause of hemoptysis is certainly most uncommon. Varices in the upper air passages, pharynx or esophagus are also rare. On the other hand hemoptysis is not uncommon in bronchiectasis. However, this is usually a chronic disease and therefore should not be confused with tuberculosis. Certainly hemoptysis occurs most commonly in tuberculosis, and tuberculosis should be carefully excluded before diagnosing any other cause for it.

A symptom complex which not infrequently has first brought a tuberculosis patient to the physician is that of so-called "flu" or influenza; occasionally also a diagnosis of pneumonia is first made in this type of patient who some weeks or months or perhaps a year or more later proves to have tuberculosis. Certainly not all so-called "flu" is tuberculosis but it is also certain that these cases must be observed and reexamined at intervals after their recover from so-called "flu" if tuberculosis is to be ruled out or discovered at an early stage.

Pleural effusion is another condition that should not be lightly passed over. When no other etiology is present a large percentage will be due to obscure tuberculosis. Frequently it is wise after aspiration of fluid to cause temporary pneumothorax until the lung can be thoroughly x-rayed and tuberculosis with cavity ruled out. When no tuberculosis can be diagnosed, it still may be present. Recently a young patient of mine with effusion and no demonstrated lung trouble but poor general condition was in bed three months, made marked improvement and was about to be released when he developed fatal tuberculous meningitis.

Spontaneous pneumothorax rarely is a first sign of tuberculosis. Some cases of spontaneous pneumothorax probably are not tuberculous in origin, but all must be carefully observed and the patients reexamined repeatedly.

Some acute fevers thought at first to be due to other conditions prove to be tuberculous.

The average case however with which this paper is concerned has only vague symptoms—cough, pain, loss of weight, malaise, and so on.

Examination should be general and thorough. For the chest it includes inspection, palpation, percussion and auscultation before and after cough. Listening to the chest after cough is of most importance in eliciting early disease. Fluroscopy is of value.

Most important though in this early case is the x-ray film, preferably stereoscopic. I believe that endeavoring to save a patient's money by not having an x-ray film made is often in the end a waste both of his time and money and often his health.

The blood examination is next in order. Anemia should be discovered if present. The white blood count is of value usually chiefly for the differential count. A high monocyte count and a relatively low lymphocyte count is somewhat indicative of tuberculous activity. The sedimentation rate if rapid will support other positive findings of tuberculosis. Urinalyses and sputum examinations should be made.

Sputum may need to be examined repeatedly and possibly by culture and guinea pig inoculation before declared negative. Even repeated negative sputum tests do not disprove tuberculosis.

If a positive diagnosis cannot be made but some of the findings or symptoms point toward tuberculosis, the patient should return for reexamination at intervals of a few weeks.

It may be important to make a stool examination, agglutination for malta fever and other tests to prove that the condition is not something else than tuberculosis.

What harm may we do by failing to make a diagnosis? I cite a case of my own. In 1928 a young single woman stenographer of 22 consulted me because of a hacking morning cough. I was caring for her sister who had

advanced tuberculosis and soon died. I know that this stenographer had been a great deal with her sister and slept in an adjoining room. The history otherwise was negative. There was no sputum, no loss of weight, no tiring, no apparent fever, no night sweats, no pain. The general health was excellent. She looked robust. She had palpitation of the heart on excitement. Physical and fluoroscopic examinations were negative. No x-ray picture of the chest was made. Blood pressure was 120/80, the pulse rapid, the pulmonary second sound accentuated over the aortic second sound. Temperature was 98.3. The tonsils were moderately enlarged.

This patient did not return for reexamination, but I saw her frequently at her work and she seemed well. Fifteen months later she saw another physician who found a cavity in the top of the right lung. She later developed a cavity in the left lung. I have seen her in consultation and know that she has been treated by bilateral pneumothorax, that she will never be entirely well and that the cost of her medical care has been close to $1000.00 at moderate rates. In addition she has lost already about 7 years of normal life.

The course of this case probably indicates a low resistance to tuberculosis; yet had I kept her under observation after my first contact with her I might have saved her loss of time money and health. The cost of repeated examinations and x-ray films does not compare with the loss of this girl's health.

Let us start in April, 1936, with the next case, again a young woman of 22, married, with a child 6 month's of age. She had a dry cough, slight fever, no sputum. Two weeks before she had spit up a little blood and had pain in the right chest on deep breathing. She had caught colds easily for three years. She had dullness over both lungs and scattered fine rales following cough in the lower right chest in back. Fluoroscopic examination showed marked shading through the right lung and in the upper left. Her hemoglobin was 80%, the sedimentation time 28 minutes, the white count 10,200, lymphocytes 20% and monocytes 6%. Physical examination alone was sufficient in this case to make a diagnosis of tuberculosis. The x-ray film was corroberative but showed no cavities of moment. This girl may recover by a prolonged sanatorium regimen without special treatment.

On close questioning we learn that this girl spit up blood two years ago. She was then an early case of tuberculosis. The physician who saw her made a thorough examination and an x-ray film of the chest. His diagnosis was probable bronchiectasis but he suspected tuberculosis and advised the patient to return in two months. She did not return. In fact she was so unimpressed with the need of reexamination that she told me her previous examination and x-ray had shown no tuberculosis. I believe she was wrong and that her former physician did caution her. I gain from this incident the impression that we as physicians must more strongly urge on a suspected tuberculous patient the real dangers of their not keeping under observation.

This second case may not be much out of pocket for her failure to avert widespread active tuberculosis but she will have impaired health the rest of her life.

A more favorable case is a young single man, chemist, whom I saw in 1926. He also was 22. He had had scarlet fever at 16, measles at 20, and a cough for 6 months with some sputum. About 2 weeks before I saw him he had streaks of blood in the sputum. He had lost 3 or 4 pounds.

Physical examination showed slight depression and impairment of the apices. The x-ray film was reported by Dr. W. W. Watkins as follows: "Radiograph of this chest shows abnormal amount of hilus density about equal on the two sides. There is a moderate fibrous striation density into the upper lobe areas, more marked on the left side over the first, second and third interspaces. The shadows reach well out into the periphery over the upper lobe area of each side but do not have the definite characteristics of parenchymatous activity."

Despite the almost negative physical examination and almost negative chest x-ray this boy's sputum test was positive. It was never positive again. A few months of sanatorium regimen put him back to work and good health.

Conclusion: I think it worth while to reiterate what you all know. We need to be reminded to examine our patients thoroughly; we must examine, reexamine and reexamine. If we find

tuberculosis early we not only save lives but health and waste of time, money and suffering and will do much toward stopping the spread of this disease.

DISCUSSION

Dr. Trevor Browne: Dr. Thomas has stated that many of us are saying, while listening to these excellent papers on tuberculosis, that "Dr. Thomas is still on the same old hobby." I am reminded by this statement that something like 12 years ago Dr. Meyer stated that no one wishes to hear about tuberculosis. Times have changed greatly since then, and now all are eager to hear all that may be said on the subject and are pleased that men like Drs. Thomas, Storts and Randolph do consider it a hobby. I am interested in the problems of tuberculosis as they relate to children. The great advances in chemistry during the past few years have afforded the medical profession better means for detecting and controlling this disease. The sedimentation tests, for example, are most valuable for detecting the activity of the disease.

Dr. Storts has clearly and concisely covered the important points in the field of childhood tuberculosis.

When the profession and the public can be educated to isolate a child with tuberculosis as they isolate scarlet fever or diphtheria then will we make a great forward step in its control. If the same energy were shown in controlling human tuberculosis as in the control of bovine tuberculosis our statistics today would be entirely different.

Every child is a potential reservoir for tubercle bacilli.

Children who have had attacks early in life are much more prone to succumb in the "teen" age than are those who have not had attacks.

The tuberculin ointment, used in skin testing, is a great improvement over the other methods, and should be used much more frequently than it is.

I express my sincere compliments to those who have participated in this excellent symposium and repeat the warning to guard childhood and the "teen" age against the inroads of this disease.

Dr. Hogeland: I have just one question to ask Dr. Thomas. Is there any surgery to offer silicosis?

Dr. O. H. Brown: My few words are to caution that each physician handling these cases be most thorough in following them through. I have in mind the case of a young woman of about 35 years of age whom I have known since she was a babe. A young tuberculous aunt fondled her when she was but a few weeks of age.

She remained healthy as a babe, as an adolescent and as a young woman, taking her place in social and school activities, and as a young matron and mother. I had forgotten it, but she tells me now that I told her when she was about 14 that she had a well developed induration of one lung and that I gave her tuberculin for a prolonged period. Two years ago in Los Angeles she had successive prolonged respiratory tract infections. She admits that for the past 8 to 10 months she has been ill and recently wrote me the facts. I advised that she have an x-ray of the lungs made. She replied that her physician said it was her throat and not her lungs. Recently she came to me in Phoenix, I had the x-ray made and one apex has marked involvement. The moral, of course, is that we should keep a close watch on those who had childhood tuberculosis or mere exposure. Checking and rechecking is necessary if these cases are to be kept free of serious tuberculous activity.

Dr. Randolph: Dr. Thomas has given us a valuable presentation and his illustrations are really excellent. His paper is enthusiastic as his subject demands. Some years ago we had in the literature many papers on rest in treatment of tuberculosis. Now we need papers of this type that will bring physicians to realize that tuberculous cases must be referred early to surgeons, when medical measures fail, that the surgeon may bring about a cure without having to resort to too extensive operations. The patient with a single cavity that will not close by pneumothorax may obtain an arrest of his disease by a partial thoracoplasty. In the old days a total thoracoplasty was usually necessary when the patient eventually came to surgery.

I would like to emphasize, however, what Dr. Thomas has only indicated, that rest and sanatorium treatment is important for preoperative preparation and postoperative care in order that the effects of surgery may be of maximum benefit. Medical estimation of the case is important. I am sure that Dr. Thomas is thorough in the medical follow up.

In my own thoracoplasties I begin work where the cavity is located. That may be in most cases at the top of the chest but occasionally at the bottom and in one or two cases I have started with some of the middle ribs when the cavity was located in a mid position, the idea being to attack first the major source of trouble in order that the patient may immediately receive benefit. I agree with Dr. Thomas that large sections of ribs should be removed.

I appreciate the discussion of my own paper and wish only to restate my conclusions that in our own families we may easily overlook the possibility of tuberculosis as well as in private patients with minor symptoms. Careful, thorough examination and re-examination is necessary.

Dr. C. A. Thomas (concluding): I am sorry that I have nothing to offer Dr. Hogeland in surgical treatment of silicosis. The selection of cases of tuberculosis for surgery is most important. After the surgeon has done his work, good as it may be, the patient is not well. Let the physician take his patient over and say when he is best able to return to his work. The earlier the collapse the better. Why wait until there is a "God-awful" spread? Do it early, quickly and safely and return these people to health and to work.

SUGGESTED IMPROVEMENTS IN THORACOPLASTY

WILLARD SMITH, M. D.
Phoenix, Arizona

Standardized operations serve well for a while, and then somebody finds a better way. Surgeons whose forte is imitation rather than invention, oppose change for commercial reasons. Progress may be halted, but evolution will have its way. The fittest will survive.

I once stated that pulmonary tuberculosis is a surgical disease. I reiterate that statement. Dame Nature is a very effective old lady,

though her manners are rather crude. She sometimes arrests and occasionally cures tuberculosis, and she always does it the same way. By some means, she succeeds in getting tubercle bacilli submerged in a cesspool of the excreta of tubercle bacilli. That is not a very healthy place for tubercle bacilli, so they seek protection by building around themselves a wall of the most availab'e material. Sometimes it is lime and sometimes it is scar, but they never incarcerate themselves until they are submerged in the aforementioned cesspool. The inside of this refuge becomes filled with the same excreta, and it also effectively prevents the entrance of nutrition necessary for their existence. By whatever means tuberculosis is arrested or eradicated, this program is carried out.

It isn't always necessary to shoot a humming bird with a sixteen-inch gun. Often milder measures suffice, and this accounts for most of the spontaneous arrests. The bacilli always commit suicide if we can make them stay in one place long enough, and keep the patient alive in the meantime. Too frequently, through ignorance, willfulness, or wrong advice, the disease gets out of hand and mixed infection occurs. The moment that happens the disease becomes surgical; hence search for methods by which transportation of bacilli could be prevented. Artificial pneumothorax has brought about the ideal condition in many cases. The burning of pleural adhesions aided many cases. Paralyzing the hemidiaphragm became popular, and was over used, but is settling down to its limited application. Scaleniotomy was a help, but its range was limited. Postural treatment, compressive braces, shot bags and other aids were invoked, and did much good. But where cavities had formed, except in a few instances, it was necessary to obliterate the cavities by permanent compression before even partial success could be secured. So plastic operations upon the chest wall were devised. These were used only in advanced cases, uncontrollable by other means. The tendency was to overshoot the mark, and compress much uninvolved lung which was valuable to the patient if it could be retained for functional use. Many cases required complete collapse of an entire hemithorax. Then the idea dawned that selective compression could be used. Too many times the compression was inadequate and the methods unsurgical. Here entered the extrapleural paraffin pack, which is seldom satisfactory. The object sought is to retain, for functional use, all of the good lung, and put out of commission all of the hopelessly destroyed lung. There are certain disadvantages in the introduction of foreign bodies. So, surgeons began casting about for some method which would not involve the implantation of a foreign body. Transplants, to succeed, must be homogeneous; if they are to survive, and continue to be effective, some part of the individual must be used, the continuous nutrition of which must be assured. It is easy enough to compress cavities of the lower lobes, but tuberculosis has a way of attacking the upper lobe most frequently.

In the early days of thoracoplasty, the surgeon had to be made of rather stern stuff. The writer has lived through that period when endeavors at plastic compression brought accusations of inhumanity, cruelty, and of something very close to murder. However, some cases were successful, and the attitude of the profession, and of the tuberculous populace, has changed to such an extent that now it is necessary to carefully select the cases and refuse to operate on many who are very earnest in their plea for surgery.

Thoracoplasty, like cesarean section, is too simple and easy an operation. Merely removing a few ribs permits sagging of the chest wall, and if the periosteum is preserved this chest wall is held in its depressed position by the reformation of ribs in the new location. Frequently, the sagging is not enough to completely obliterate the cavity. Partial obliteration is almost as bad as no collapse. Some form of living, homogeneous, transplant must be had which can successfully maintain its life and bulk, so as to complete the obliteration of the cavity. The mass of pectoral muscles was first thought of. At first they were mobilized at the outer end and, in some cases, were successful; but they atrophied, and then some one stumbled upon the fact that they must be mobilized at the inner end to maintain their blood supply. A minor difficulty was the limitation of motion of the upper extremity. Fat transplants, either free or pedicled, were made, but they also shrunk and fat is not always available in advanced tuberculous patients. Marsupialization was tried, but it has drawbacks which have

limited its popularity. So the problem was still unsolved. Some years ago it occurred to the writer that the female breast might be suitable material. This has succeeded, in some cases, largely because it can be transplanted and its blood supply maintained from two arteries. Of late years, we have been utilizing a mass of bone and muscle which can be used as an extrapleural pack, which forms a sufficient bulk to compress the posterior chest wall so that apical and upper lobe cavities can be, in many instances, effectively compressed, and which can be used as a mold so that the newly formed ribs can be pushed in far enough to obliterate many of these cavities. Just why the scapula was not thought of for this purpose sooner, is one of the mysteries. By its shape and position, it is eminently adapted to this use; and, because that portion of the scapula which enters into the shoulder joint is so formed that no limitation of shoulder motion is produced when the body of the scapula is dropped into the posterior chest defect, its use is practical.

It is so located that the ribs can easily be removed under it, and, without any supportive or compressive devices, it automatically drops into the hole and does exactly what is desired without any interference with its blood supply. We have tried out this plan in a sufficient number of cases to justify us in advancing it as a possible adjunct to effective upper cavity collapse. The technic is not difficult. The first rib, with its periosteum, must be removed over a sufficiently great distance so that the pull of the scaleni will not interfere with the venetian blind effect. A sufficient number of ribs, from the second down, to permit the dropping in of the scapula, can easily be removed by undermining, and over a sufficient distance so that the body of the scapula and the subscapular muscle mass will not suffer nutritional embarrassment. The scapular mass has sufficient bulk in the right place. It automatically retains itself in place produces the molding compression desired, and maintains its nutrition without crippling the corresponding upper extremity. We have done this for a number of years before announcing it, so as to be sure that the above postulates could all be fulfilled.

I present two cases, the first of which will illustrate the scapular transplant. This young woman has been under my observation for almost 6 years. She needed more help than could be had by minor means. On January 7, 1936 I did a left paravertebral extrapleural thoracoplasty and removed sufficient sections of ribs to permit her scapula to sink in. This is fairly recent, but she has been free from fever for 4 weeks and her sputum has reduced almost to the irreducible minimum. You can see how little deformity there is and how she can use her left arm.

The second case which I present to you has been under my observation since 1927, and I will show you a series of her X-ray pictures. When she came to me she was a graduate of the burro serum school, and had the cavities quite marked. She had even at that time, a very advanced and a very hopeless condition. She had pneumothorax until it had to be discontinued on account of activity on the other side. She has had a Sauerbruch operation on the left side. Her left lower lobe has been moved up in her chest, so that it now occupies the position of the left upper lobe cavity and, although this change of position has caused a certain lessening of bronchial function, we have here utilized a partially damaged lower lobe as an internal transplant to satisfy our need for a compressive agent for the large left upper lobe cavity. She developed a large cavity on the right side, which was coterminous with the middle lobe. She had much scarring. I estimated that her respiratory capacity was reduced to about 25% of normal; 20% is the irreducible minimum. It was necessary to compress the middle lobe cavity. She had fairly large breasts, so we removed portions of three ribs, with the periosteum, making a permanent window so situated that her right breast could be placed inside of her rib cage or brought outside, at will. It was necessary to leave this breast movable, and devise a harness to hold it wherever necessary, so that she could adjust it to her respiratory needs as governed by the humidity of the atmosphere. Her respiratory margin is so small that the barometer determines the daily position of this breast. She is much more comfortable with it inside and it is kept there most of the time. It would be easy to retain the breast inside of the chest wall by utilizing a bridge of pectoral fascia but if we did this she would be seriously embarrassed when atmospheric humidity rises.

Summary

We suggest that thoracoplasty is not yet a rubber stamp operation. We present two illustrative cases. We hope this may stimulate further investigation and improvements upon an operation which is tending to become standardized. Standardization is the worst thing that can happen in surgery.

SHEEP CELL AGGLUTINATION IN DIAGNOSIS OF INFECTIOUS MONONUCLEOSIS

LOUIS B. BALDWIN, M. D.
Tucson, Arizona
From the Desert Sanatorium and Institute of Research.

(Presented before 45th Annual Session of the Arizona State Medical Association, April 23-25, 1936.)

The diagnosis of infectious mononucleosis in the acute stage can now be made by a simple serological test, and need no longer depond upon identification of the mononuclear cells described by Downey and McKinley[1], or upon the difficult process of ruling out other similar acute febrile conditions. Accidentally Paul and Bunnell[2] during a study of heterophile antibodies observed high concentrations and hemolysins for sheep cells in the sera of patents in the acute stage of infectious mononucleosis. Bunnell[3] reported 15 additional cases and stressed the diagnostic value of the test. He also studied a large number of clinical conditions including acute and chronic infectious diseases as well as the blood dyscrasias, and in none of them was he able to demonstrate appreciable increase in agglutinin titre for sheep cells, clearly demonstrating that the test differentiates infectious mononucleosis from other diseases with which it has been confused. Furthermore, he found that the development of agglutinins for sheep cells parallels the pathological lymphocytes which usually appear early, reaching a maximum during the second week and then gradually disappearing. Similarly the agglutinin titre for sheep cells is increased on the 4th day of the disease, reaches a maximum when the pathological monocytes are at their heighth and then gradually drops off, often disappearing within a month after defervescence. The value of Paul and Bunnell's discovery has been confirmed by Bernstein[4], Boveri[6], Butt and Foord[5], Sprunt[7] and others, and has been generally accepted as specific in the diagnosis of infectious mononucleosis. On the other hand, the therapeutic use of horse serum may produce agglutinins to sheep cells; it has been shown by Davidsohn[8] that during, or shortly after, serum disease there is a marked increased titre of heterophile antibodies for sheep cells. The blood of these patients may show agglutination titres ranging from 1:32 to 1:64, but rarely higher. In infectious mononucleosis, on the other hand, agglutinations have been obtained in dilutions of 1:4096. Hemolysins and agglutinins for sheep cells regularly occur in low dilutions of normal human sera, though the titre at which the reaction disappears rarely exceeds 1:8.

All sheep cell agglutination reactions are based on the discovery of Forssman[9] that a substance in the tissues of guinea pigs, cats and horses but not in the ox and rat, stimuates in rabbits an hemolysin for sheep red corpuscles. The terms "Forssman", and "heterophile", antigens have been used for the substances which have the same antigenic properties as have sheep cells. Many animal tissues and some bacteria, including pneumococci and B. dysenteriae, produce these hemolysins when injected into rabbits.

It was to determine whether or not bacterial heterophile antigens, during the course of infectious diseases, stimulated in man the production of sheep cell agglutinins that Paul and Bunnell undertook their original work.

The test as originally outlined by Paul and Bunnell is as follows: Serum is inactivated for 15 minutes at 55° C.; dilutions of inactivated serum, ranging from 1:4 to 1:2048, or higher, are set up in 0.5 c.c. portions; to these, 0.5 c.c. of 2% suspension sheep cells is added, followed by 1 c.c. of salt solution, thus bringing the total volume in each tube to 2 c.c.; the test tubes are shaken and placed in the water bath at 38° C. for one hour, left in the icebox over night and on the following morning are read, after each tube has been inverted 3 times with its mouth covered by a finger tip.

Legends for recording the readings are given in the following terms: + + + firm disk, + + disk easily broken into large flakes, + fine agglutination, and ± barely perceptible but fine agglutination.

The above technique of Paul and Bunnell has been generally adopted and gives satisfactory results.

Butt and Foord have added a simple microscopic agglutination technique by which more rapid diagnoses can be made. This consists of taking 1 loop-full of blood serum and 4 loops-full of a 2% suspension of sheep cells in normal saline to make a hanging drop; almost immediate agglutination takes place when sera from cases of infectious mononucleosis or serum dieases are used. Stuart, Burgess, Lawson and Wellman[10] have shown that unless great care is taken in the test conflicting results may be obtained; sheep cell agglutination by normal human serum is greatly influenced by the concentration of cells and the temperature of incubation; and hence the serological test may result in false diagnoses. This may be true when agglutinations occur with low dilutions of the serum; but it is generally agreed that positive readings with high dilutions occur only in infectious mononucleosis and in serum disease.

No adequate explanation has been found for the agglutination reaction in infectious mononucleosis. Paul and Bunnell have 2 views: That the unknown agent responsible for this risease contains the Forssman, or heterophile, antigen and the abnormal cells of the disease produce iso-agglutinins which are responsible for sheep cell agglutination. Recent experimental work by Bailey and Raffel[11] tends to show that these agglutinins are not true Forssman antibodies.

The strong agglutinations to sheep cells in infectious mononucleosis strengthens the view of its bacterial origin but indicates that the cause has not been found, because none of the bacteria so far advanced as the causative agent has been shown to stimulate production of sheep cell agglutinins. Paul and Bunnell found no increase in sheep cell agglutinins in Vincent's angina, although Gorham, Smith and Hunt[12] claimed, to have produced the typical blood picture of infectious mononucleosis in guinea pigs by inoculation of membrane from the pharynx of a severe case of Vincent's angina, and that persons in contact with the experimental animals developed infectious mononucleosis.

Two cases to illustrate the value of the Paul and Bunnell test in infectious mononucleosis are reported.

A white male, 10, was admitted to the Desert Sanatorium on December 15, 1934, because of an injured back. His past history was essentially negative except for a severe serum disease in early infancy, and frequent winter attacks of bronchitis. Periodic urine examinations had been consistently negative.

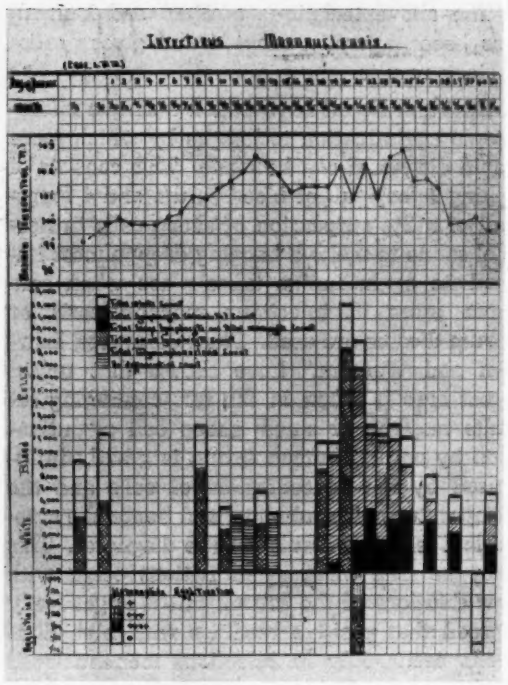
He was a well developed boy in moderate shock complaining of slight lumbar pain, with superficial skin abrasions over the lower back. Immediate urine examination showed a trace of abumin and numerous hyaline and granular casts. Repeated daily urinalyses showed progressive clearing but 10 days following the accident an acute pyuria with high fever set in. Cultures of the urine showed colon bacilli. The course was typically pyelitis with high fever for a week and pain over both kidneys. Convalescence set in gradually and the urine showed progressive clearing.

On January 30th, 1935 the boy developed slight upper respiratory infection. On February 3rd, he had slight fever, moderate pharyngitis and slight cervical adenitis. Despite the subsidence of the pharyngitis, his temperature reached 102.4° by February 14th, swinging between 100 and 102° until February 23rd, when it began falling by lysis, reaching normal on February 26th. This episode lasted about 23 days and was characterized by enlargement of the spleen on the 5th day, enlargement of the liver on the 9th and general glandular enlargement on the 16th day of fever. The red blood counts and hemoglobin remained normal throughout. The total leucocytes showed a progressive drop with a mounting percentage of lymphocytes early in the disease. On February 12th the white blood cells numbered 5000 with 78% lymphocytes, but later there was a rise both in total leukocytes and total lymphocytes. These reached a peak of 22,200 with 82% lymphocytes on February 18th. They then dropped rapidly in total number though lymphocytosis persisted for a long time. The diagnosis of infectious mononucleosis was suspected on the basis of blood smears on February 17th but was not definitely made until a positive agglutination with sheep cells was obtained with the patient's serum in a dilution of 1:1024 on the 21st day of his illness.

The boy made an uneventful recovery and has been well since March, 1935. On March 12, 1935, the sheep cell agglutination was still faintly positive in a dilution of 1:16.

A boy, 19, on November 10, 1935, was complaining of a mildly sore throat and pain in the left lower chest. The temperature was 102°, the pharynx was moderately congested and the cervical lymph nodes were slightly enlarged. He continued to have fever with a peak of 102° with morning remissions. He had severe headaches and night sweats but the chest pain rapidly subsided. A blood count showed RBC 4,500,000, Hgb 15 grams, WBC 7000, neutrophiles 45%, eosinophiles 5%, small lymphocytes 44%, large lymphocytes 5%, monocytes 3%. The sedimentation rate was 8 mm. at the end of 1 hour (Westgren method). The blood Wassermann was negative as were agglutinations for typhoid, paratyphoid and malta fever. Acute miliary tuberculosis was seriously considered because the boy had lived with his stepfather who had died of pulmonary tuberculosis, even though the x-ray showed no lung pathology. The throat inflammation subsided after the first few days but there was an increasing enlargement of the cervical, axillary and inguinal nodes, and the spleen was palpable on November 20th; the blood count showed no change in the red blood cells and hemoglobin but the white blood cells were 13,200, neutrophiles 15.5%, basophiles 1%, small lymphocytes 63%, large lymphocytes 11%, monocytes 3.5%, unclassified 6%. A diagnosis of infectious mononucleosis was made on the basis of blood smears and was confirmed by the sheep cell agglutination test which was positive in a serum dilution of 1:128. The temperature persisted for a few days longer but gradually dropped by lysis. The boy was last seen December 2, 1935, at which time he was feeling well and was entirely asymptomatic. The cervical lymph nodes were still palpable but the spleen could no longer be felt.

If infectious mononucleosis is a specific bacterial disease, as seems likely, it is difficult to see how the first case contracted the condition, carefully guarded as he was against all contact infection, unless a nurse who left the case with a sore throat had a mild attack of the disease. If this could have been proved it would bear out the contentions of Stuart, Burgess,



Lawson and Wellman[10], and of Butt and Foord that the condition is not only common but may be very mild. Butt and Foord are of the opinion that many so-called colds, influenza or sore throats represent unrecognized cases of infectious mononucleosis. Various conditions were considered. In view of the recent urinary infection in the first case the reappearance of fever indicated a perinephric abscess or other urinary complication. This view was strengthened by the mild bacilluria. With the rising white count and increasing lymphocytosis the possibility of acute lymphatic leukemia was considered. Lymphatic leukemia could not be ruled out because of the lack of serious anemia and illness; the pathological lymphocytes described by Downey and McKinley in infectious mononucleosis are sometime difficult to differentiate from the lymphocytes of leukemia even by trained pathologists, as may be attested to by the fact that in this case an eminent pathologist made a diagnosis of lymphatic leukemia.

Similarly, in view of the exposure of the second boy to tuberculosis and the chest pain miliary tuberculosis was suspected, and it was not until a sheep cell agglutination was obtained with his serum in a dilution of 1:128 that the correct diagnosis was made. In both

these cases considerable worry and suspense might have been avoided had the Paul and Bunnell tests been made during the first weeks of the disease.

Conclusion

Two cases of infectious mononucleosis are presented in which the sheep cell agglutination test originally discovered by Paul and Bunnell proved of diagnostic value.

The test becomes positive early in the disease, reaches a maximum at the heighth of the leukocytosis, and disappears shortly after defervescence.

REFERENCES

1. Downey, H., and McKinley, C. A.: Arch. Int. Med. 32:82, 1932.
2. Paul, J. R., and Bunnell, W. W.: Am. Jour. Med. Sc. 183:90, 1932.
3. Bunnell, W. W: Am. Jour. Med. Sc. 186:346, 1933.
4. Bernstein, A.: Jour. Clin. Invest. 13:419, 1934.
5. Boveri, R.: Klin. Wchnschr. 12:666, 1933.
6. Butt, E. M. and Foord, A. G.: Jour. Lab. and Clin. Med. 20:538, 1933.
7. Sprunt, T. R.: Internat. Clin. 3:92, 1933.
8. Davidsohn, I.: Jour. Immunol. 18:31, 1930.
9. Forssman, J.: Biochem. Ztschr. 37:78, 1911.
10. Stuart, C. A., Burgess, A M., Lawson, H. A., and Wellman, H. E.: Arch. Int. Med. 54:199, 1934.
11. Bailey, G. H. and Raffel, S.: Jour. Clin. Invest. 14: 228, 1935.
12. Gorham, L. W., Smith, D. T., and Hunt, H. D.: Jour. Clin. Invest. 7:504, 1929.

SURGICAL MANAGEMENT OF DUODENAL ULCER

JAMES W. HENDRICK, M. D.
Amarillo, Texas

(Read before the 45th Annual Session of the Arizona State Medical Association, Nogales, Arizona, April 23 to 25, 1936).

Since the refinements of diagnosis with the fluoroscope and complete examinations of patients with gastric disturbances are now made, the frequency of duodenal ulcer is being appreciated. Von Eiselberg, Moynihan and W. J. Mayo have given great impetus to the study.

Robertson and Hargis[1], in a study of the stomach and duodenum in 2000 **postmortem examinations**, found inflammation, or ulceration in 12 per cent. Their results were confirmed by other pathologists. In reviewing the histories of the postmortem cases, only 38% had had gastric disturbance.

Blackford[2] in an analysis of 2000 cases found the ratio of duodenal ulcer to gastric ulcer and to gastric carcinoma to be about 12 to 1 to 3. The incidence in sexes is about 4 males to 1 female. It is often overlooked especially in the female, the symptoms being attributed to gall bladder disease.

Wilkie[3] speaks of the **"ulcer type,"** usually an asthenic, active, anxious-minded male whose profession or business takes precedence over meals or sleep. We see ulcers, however, in the stout, phlegmatic, hypothyroid individuals.

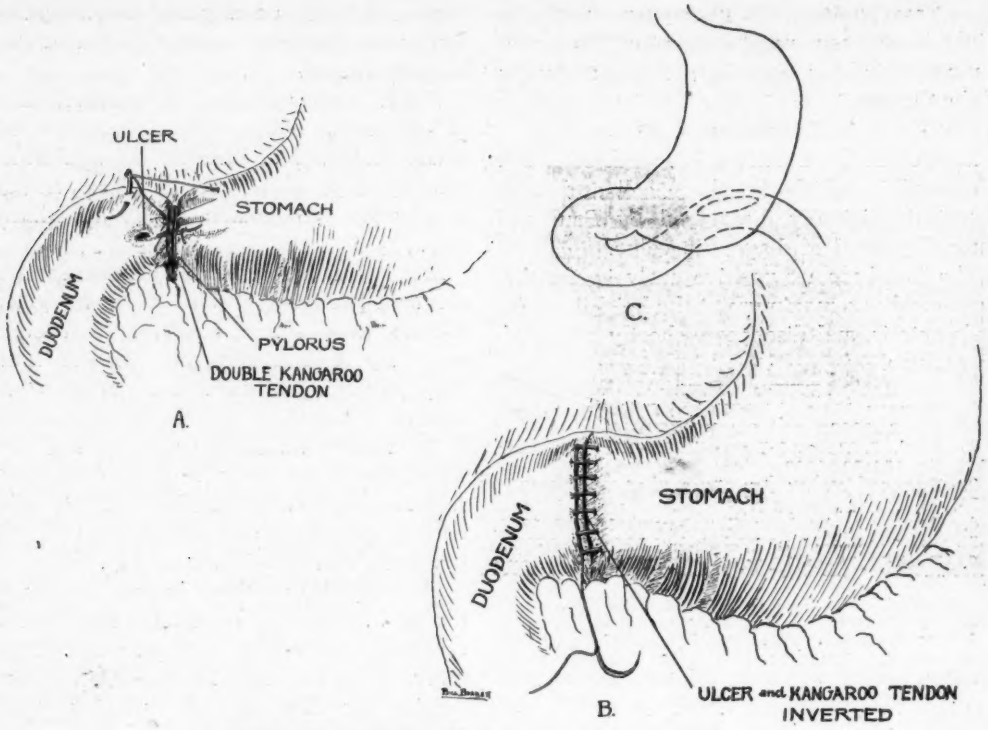
Mann[4] and his group of **experimental** sursurgeons produced chronic duodenal **ulcer** in the laboratory animal simulating that found in man. By traumatizing the duodenal mucosa they produced an acute ulcer which becomes chronic if constantly bathed in stomach acids. If the acids were neutralized, buffered, or diluted, the ulcer healed. They demonstrated that healing is faster and better if the ucler is entirely protected from gastric acids by pyloric occlusion and gastroenterostomy.

The majority of **ulcers in man** occur within the first .75 inch in the duodenum. This area receives the brunt of the gastric contents forced from the stomach. This area is too high to receive the diluting and buffering effect of the pancreatic juice and bile.

Slight **traumatic or toxic lesions** of this area tend to heal in the ordinary individual, but in one predisposed to ulcer with an unstable autonomic nervous system, an intractable chronic ulcer develops. **Foci of infection** such as abscessed teeth, infected tonsils, chronic appendicitis or cholecystitis prevent healing. All such foci of infection should be eliminated.

The **symptoms** of chronic ulcer are, as a rule, irregular in the beginning. Vague irregular dyspepsia, infrequent at first, later become more constant. In about one-half of the cases the symptoms are intermittent, occurring perhaps periodically in the spring and fall, with acute exacerbations. The symptoms may become progressively worse. Distress usually appears about two hours after taking food. Pain is accompanied by gas, bloating, belching, sour stomach, and epigastric fullness. Nausea and vomiting may ensue. The distress continues until the next meal, or until an alkali is administered, or until vomiting occurs. The pain may be intense, and boring, perhaps radiating through to the back. Such pain is constant and not relieved by food, vomiting, or alkali.

A history is important in arriving at a diag-



METHOD of OCCLUDING THE PYLORUS and INVERTING ULCER ON THE ANTERIOR SURFACE OF THE DUODENUM

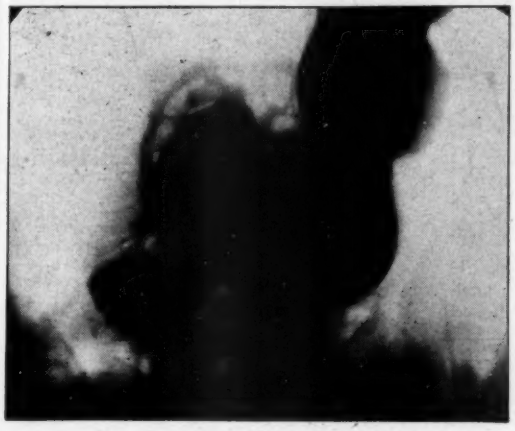
nosis. Of less importance is chemical analysis of the gastric content following an Ewald meal. An increase in the gastric content and hyperchlorhydria are constant findings. Duodenal ulcer is unlikely without increased gastric acid. The degree of acidity may indicate the type of operation. A fluoroscopic examination with barium is the most important single factor in making a diagnosis. The lesion and retention, if present, may be demonstrated.

Duodenal ulcer in the beginning should have a fair trial of **medical management,** especially in young persons, and in the aged with angina pectoris, diabetes, nephritis, cardiac lesions, etc. Moynihan[6] stated in 1932 that the failure of medical treatment was its insufficiency. The average patient often will not subscribe to and remain with it long enough to get results. Men doing manual work especially cannot give time to prolonged medical management and they must have a considerable quantity of food. For this class I advise early surgical management.

Lahey[5] states emphatically that if medical treatment does not relieve and the following symptoms appear, **surgical intervention** must be considered: Recurrent hemorrhage, pyloric obstruction, persistent pain in spite of medical measures, perforation, and patients who develop alkalosis on medical management. To the above I add the patients who have severe symptoms and live many miles from hospitals and surgeons. Our section of the country is sparsely settled with towns many miles apart. A patient far from a surgeon developing a massive hemorrhage or a perforation is more than likely to die before he can be transferred to a hospital.

Gross hemorrhage occurs in about 20% of duodenal ulcers. In most cases no other symptom except perforation makes the patient realize that there is something wrong. Finister[7] states "it adds drama to the chronic dyspeptic," and he might have added, drama—and worry—to the attending physician.

Ulcers on the anterior surface of the duodenum are less likely to hemorrhage extensively than are those on the superior and posterior surfaces; no large vessels are on the anterior surface. An ulcer on the posterior



Deformity of the duodenal bulb. Large penetrating ulcer found at operation. Occlusion of the pyloric and gastro-enterostomy.

wall may penetrate into the pancreas and erode the pancreaticoduodenalis artery which passes just behind that area. Chronic ulcers have extensive scar formation and exudate which prevent retraction of the blood vessels and interfere with clotting. In individuals over 50 the danger is markedly increased as arteriosclerosis added to inflammation also prevents adequate retraction and contraction of the vessels. Keifer[5] has pointed out that gross hemorrhages result fatally in 5% of the cases.

A **massive hemorrhage** should be treated medically. It is best to prohibit all fluids by mouth and give morphine grain 1/6 every 3 to 4 hours and small frequent blood transfusions of 400 to 500 c.c. Intravenous glucose-saline after 36 to 48 hours prevents dehydration[5]; given earlier it may reduce the viscosity of the blood and restart hemorhage. Keifer suggests after the second massive hemorrhage that perhaps it is best to operate. These cases are extremely poor surgical risks. Keifer found in an analysis of their cases that massive hemorrhage indicates a severe type of ulcer not likely amenable to medical management.

Gross hemorrhages in about 30% of the patients are followed by **second hemorrhages** within 2 years. Hemorrhage continued in about 65% with 5% ending fatally. The fatalities following hemorrhage should discourage medical measures, and recommend surgery.

A **perforated peptic ulcer** is a real surgical emergency. The mortality depends on early diagnosis and surgical judgment. There has been debate as to whether any procedure other than closure of the ulcer should be instituted. I am of the opinion that the findings at operation should dictate the measures necessary. It is the chronic ulcer with considerable inflammation and cicatrical contraction which perforates. After closure of the ulcer, if stenosis seems likely, gastroenterostomy should be done. This is exemplified in the following case:

A male, 27, was seen at 1 A. M. in shock with intense pain in the abdomen; he had had symptoms for 3 years, and had been advised by his physician to take soda when he had dyspepsia and not to eat meat. For 2 months previous to the perforation he had vomited almost all of his meals. He had lost 35 pounds during the past three months. After eating a cheese sandwich and drinking a bottle of home brew, he developed a sudden sharp pain in the epigastric area. A diagnosis of perforated duodenal ulcer was made. The patient was operated upon immediately. A large ulcer on the anterior surface of the duodenum was closed with purse string sutures and covered with omentum. Complete occlusion was present. A posterior gastroenterostomy was then done. The patient made an uneventful recovery. Re-examination with barium meal at yearly intervals has shown the pylorus still occluded.

Deformity of duodenal bulb. Gastro retention at end of 18 hours. Large penetrating ulcer found at operation. Pyloric occlusion and gastro-enterostomy.

There are 2 main **operative procedures** for the **relief of duodenal ulcer:** The direct attack by pylorplasty and partial duodectomy with gastric resection and the indirect by gastroenterostomy and gastroduodenostomy. If every case of duodenal ulcer is carefully studied, and the correct procedure applied end results will be most satisfactory.

The **direct operations** have the advantage in that they permit discharge of gastric contents into the duodenum by the natural opening. Where pyloroplasty can be executed it has the advantage of removing the ulcer, of doing away with the pyloric sphincter and in hemorrhage a direct attack can be made on the ulcer. Again in recurrence other operative procedures can be executed. It has the disadvantage of being limited in applicability.

Wilkie has popularized **gastroduodenostomy** though more difficult than gastroenterostomy and reports excellent results. It can be applied only to certain types of lesions. The duodenum must be mobilized so that anastomosis can be made between the second part of the duodenum and the stomach. Its advantages are: An anterior wall ulcer can be inverted making perforation unlikely; the first part of the duodenum where the majority of ulcers are is circumvented; and gastric stasis and pyloric spasm are entirely relieved. The second part of the duodenum is relatively tolerant to acid contents as it is more alkaline and has the bile and pancreatic juice to dilute and buffer the acid contents.

Posterior gastroenterostomy is the popular procedure in this country. It has definite indications and contraindications giving satisfactory results in a good percentage. Its greatest influence is in long standing cases with stenosis and low acidity. It should not be done in young individuals with marked hyperacidity. I have found its usefullness increased if the pylorus is occluded by double kangaroo tendon around the pylorus tied tight enough to occlude but not to produce necrosis. The stomach is sutured to the duodenum, thereby inverting the kangaroo tendon. An ulcer on the anterior surface of the duodenum also can be inverted. This technique has served in hemorrhage where pyloroplasty was impossible and the risk would not permit a partial gastrectomy. Von Eiselberg demonstrated years ago that an ulcer heals, and hemorrhage ceases with occlusion of the pylorus and gastrojejunostomy.

Partial duodectomy and gastric resection is the most satisfactory operation for duodenal ulcer. It is especially useful in hemorrhagic ulcers with marked hyperacidity. It removes the first portion which is most vulnerable to ulcer, and brings about anacidity; recurrent ulcers are rare. Either the Billroth I or II method may be used. This method of ulcer management is used more than any other in continental Europe. Finister's experience with it has been extensive and his results gratifying. The only disadvantage to the procedure is an increased mortality, it being a more formidable operation than any other for duodenal ulcer. I have hesitated to use it on poor risks.

The **gall bladder shou'd be inspected** and removed if found diseased. It is well to remove the **appendix** routinely. Rosenow[9] found pure cultures of streptococci in ulcer bases. Foci of infection play an important role especially in recurrent ulcers. The lymphatic drainage from the appendix and gall bladder gives an important clue to ulcer development.

A careful regulation of the **diet** must be insisted upon following surgery **for** a period of at least **6 months.** Exclude all condiments and salt-cured articles, with moderation in smoking. As Wilkie stated, regulation during this period will be repaid.

1. Robertson, H. E., and Hargix, E .H.: Duodenal Ulcer: An Anatomical Study Med. Clin. N. Am. 8:1065-1092, Jan., 1925.
2. Blackford, J. M.: Gastric Symptoms: Analysis of Two Thousand Cases. Jour. Am. Med. Assoc. 77:1410-1412, Oct. 29. 1921.
3. Wilkie, D.P.D.: Address on the Indications for Surgical Treatment in Peptic Ulcer. Brit. Med. Jour. 1:771-774, May 6, 1933.
4. Mann. F. C.: The Experimentally Produced Chronic Gastriet and Duodenal Ulcer. The Stomach and Duodenum. W. B. Saunders Co., 1935.
5. Moynihan. B. G. A.: Observations on Gastric and Duodenal Ulcer. Practioner. 129: 4-17 July. 1932.
6 Lahey. F H.: The Selection of Treatment in Duodenal and Gastric Ulcers. Surg. Clin. N. Amer. 14:5, 1085-1095, Oct., 1934.
7. Finister, H.: Lectures University Vienna. Oct., 1930.
8. Keifer. E. D.: Hemorrhage in Peptic Ulcer. Surg. Clin. N. Am. 14:5, 1073-1085.
9. Rosenow, E. C.: Specificity of Streptococcus of Gastroduodenal Ulcer and Certain Factors Determining its Localization. Jour. Infect. Dis. 33:248-268 Sept., 1923.

The Biological Photographic Association is having its 6th annual convention in Boston. September 24th-26th at the Hotel Lenox. A cordial invitation is extended to all interested photographers and scientists. There will be an exhibition of photographs from all over the country and a display of equipment and supplies. The membership of the society is open to all whose duties include biographical photography. The secretary is Miss Anne Shiras, Magee Hospital, University of Pittsburgh, Pittsburgh, Pa.

MEDICAL ANNALS OF ARIZONA

HEALTH AMONG THE NAVAJOS

SIDNEY J. TILLIM, M. D.
Amityville, N. Y.

I. The Habits of the People

The land of northern Arizona and New Mexico, between the Grand Canyon on the west and the Chaco Canyon on the east—over 30,000 square miles—is the Navajo Reservation. It is an alkali-ladened desert with a sprinkling of oases, varicolored mountains, mesas, and valleys—the land of "painted" deserts. Cyclonic sandstorms during the dry months, torrential rains with little warning in the spring and fall, snowstorms in heavy drifts plus subzero temperature, are hazards of existence not infrequently encountered.

By language, the Navajos seem related to the tribes of the northwest. Certain of their physical features, such as shape of eyes with retention of inner canthal fold, and distribution and quality of hair suggest an oriental ancestry. But, according to their legends, they have always lived in this particular part of the country, except for the few years in captivity at Ft. Sumner, N. M., in the 1860's. They began life in the canyons. Great waters came and lifted them high. When the waters receded they found themselves on top of mountains and mesas which they conquered from great giants and beasts. Gradually they extended their conquests to the valleys. To this day their Gods and Evil Spirits are supposed to live in secret hiding places of their sacred mountains. The wild animals of their country are religiously feared or loved for the part played in the people's early struggle to survive.

They are essentially a pastoral people. Raising of sheep and goats is their chief industry. The beginning of this industry dates far back into the history of the people. They had always raised sheep and goats. When they were returned from Ft. Sumner about 1867-8, they had but few of them. The Government, two years later, gave to every individual, adult and child, two sheep and a few years later a third one. These were the nuclei for the present herds, some of which count into thousands. In the spring the flocks are brought to the valleys, near water holes, and late in autumn to the mesas or to places where the winters are less severe.

Generous and charitable in the extreme, the Navajos are strictly individualistic. They feed and shelter strangers when they themselves are in dire need. Seldom does one find communities of more than three or four hogans; nor can an Indian be persuaded to support a project that may benefit only a distant section of the tribe. They will band together to build dams provided they share in the water from them. They will leave the main roads rutted and torn, if they can get by with their wagons or find another road. There are scores of small sections within the reservation, each loosely guided and counseled by a headman. In recent years the Federal government has encouraged by organization and teaching the necessity for tribal unity and interest. The annual meetings of the tribal council, consisting of elected delegates from all sections, have done much to bring the needs of the tribe, as a unit, before the Indian affairs office in Washington.

Except for cliff-dwellings, now seen only as old ruins, the hogan is the primitive sheltered place in which most of the Navajos live. It is a multi-angular or round, single room made of logs and covered with adobe mud taken from the neighboring ground. These homes are without windows or floors, having only a large hole at the top and on the east side always a small door. The furnishings generally consist of goat-skins and sheep-skins for sitting and sleeping upon, a wooden box or crude, handmade cupboard to hold perishable foods and the very meager cooking utensils, a bucket for hauling water, an old harness hanging on the wall, an antiquated shotgun or rifle which is occasionally used to frighten off coyotes or to kill rabbits, an old trunk or box for the few personal belongings, an unfinished blanket on a loom, and a chimney-pipe of old sheet-iron or tin cans suspended from the roof to direct the smoke from the open fire in the middle of the hogan. From this minimum, in most of the homes, there are grades of modernization. Occasionally there is an old sewing machine, a small mirror, an inexpensive alarm clock, an

(Continued on page 276)

SOUTHWESTERN MEDICINE

Printed by THE A. C. TAYLOR PRINTING CO., Phoenix, Arizona
Published monthly for the Board of Managers of the four constituent societies.

VOL. XX JULY, 1936 No. 7

EDITORIAL STAFF

ORVILLE HARRY BROWN, M. D., Phoenix, Arizona — Editor-in-Chief
J. MOTT RAWLINGS, M. D., El Paso, Texas — Associate Editor
W. WARNER WATKINS, M. D., Phoenix, Arizona — Associate Editor
L. B. COHENOUR, M. D., Albuquerque, N. M. — Associate Editor
ORVILLE EGBERT, M. D., El Paso, Texas — Associate Editor

BOARD OF MANAGERS

ARIZONA STATE MEDICAL ASSOCIATION

D. F. HARBRIDGE, M. D. — Phoenix
J. D. HAMER, M. D. — Prescott

EL PASO COUNTY MEDICAL SOCIETY

PAUL GALLAGHER, M. D. — El Paso
W. L. BROWN, M. D. — El Paso

NEW MEXICO STATE MEDICAL SOCIETY

C. H. GELLENTHIEN, M. D. — Valmora
J. ROSSLYN EARP, M. D. — Santa Fe

SOUTHWESTERN MEDICAL ASSOCIATION

LEROY PETERS, M. D. — Albuquerque, New Mexico
F. J. HOGELAND, M. D. — Sonora, Mexico

PHYSICIANS EASY VICTIMS OF "DEAD BEATS"

The following editorial contains our thoughts far superior to what we can express them. It it taken from the Maine Medical Journal and was probably written by Editor Edwin W. Gehring. I am sure Dr. Gehring would not make us hard hearted, but he would have us have as much commisseration for ourselves and our families as we have for our patients. We ourselves repeatedly spend money, for gasoline to call upon patients that neither need, deserve, nor pay for the attention, and our wife could well use the money so expended for a much needed frock or a useful gadget about the house. There is no reason why we shouldn't ask persons seeking our services about the financial side of the transactions. We ourselves have been working for the last several years on a rating system as to how the people pay the physicians of our community and it now seems near successful culmination, if the physicians of the community will cooperate. There are a certain number of persons in every community who run from one doctor to the next neither paying, nor intending to pay any of them. "Dead beats" of any type ought to be at least listed. There is no more reason why a "dead beat" should have his medical attention for nothing than that he should have his groceries for nothing.

Read the splendid editorial:

"Doctors Are a Cinch"

"These words are alleged to have been spoken by the young hoodlums who lured Dr. Silver C. Peacock from his home one evening on the pretext of seeing a sick child that did not exist, and then brutally murdered him.

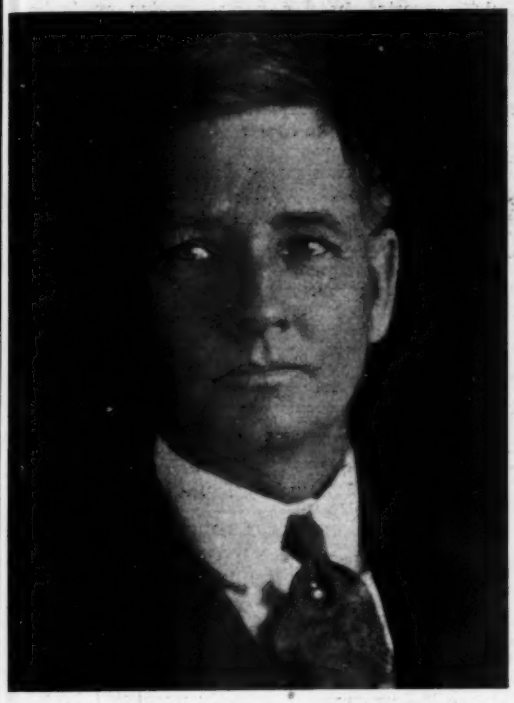
"Finding themselves in the toils of the law, they nonchalantly unburdened their souls somewhat after this fashion, 'Yeah, doctors always come when they are called and they never mind where they are told to go. Easy to get them to go to the sticks and way out in funny places. We could do 'em up good there.'

"No truer word ever was uttered and, to drop for a moment into the gang's vernacular, 'they said a mouthful.'

"The profession consists of Peacocks, men who heed gladly every call for help that comes to their ears, without thought of personal comfort or of convenience or of remuneration. In other words, the spirit of altruism ever determines the doctor's course. When, however, a virtue is carried to the nth degree, as it is by us, it becomes absurdity, if not a vice, and reduces those who practice thuswise to the status of suckers.

"Faith in humanity is not always rewarded by one's fellow men as one expects it to be. To be sure, calls upon errands of mercy fortunately do not culminate, as a rule, in murder of the physician, but too often he is robbed. Robbed of his rest, time, leisure, skill and fee, for, far too frequently, the bill never is paid. By whom? By persons without much conscience in all walks of life whose commercial credit rating is fair or good but whose medical credit rating is zero minus. With brazen impertinence they demand a service for the payment of which they simply manifest a supreme indifference. When sickness again overtakes them, they appeal to another altruistic ass (synonym for doctor) whom they have not fleeced previously, with the same result so far as the doctor is concerned.

"The remedy for correcting this outrageous situation in part, at least, lies with the medical profession. It consists in tempering mercy for others with justice to them and to ourselves; in preserving our self-respect and dignity as a profession by assuring ourselves reasonably well whom we are serving at the beginning of treatment by inquiry into their ability and willingness to pay, through the organization of a medical credit system comparable to that in use by merchants. This was advocated by me during my term as president. The plan is feasible, easy of accomplishment, inexpensive, and calculated, as nothing else will, to cause all persons to improve and maintain their medical credit rating. To continue to submit to the stealing racket practiced by pirates and parasites, spongers and sidesteppers, without making any effort to check an intolerable and disgraceful abuse is to forfeit the respect of the people, including the dodgers, and to justify the use by them of the phrase, 'Gee, doctors are easy. They always come when they are called.'"



Dr. M. B. Culpepper, president of the **New Mexico Medical Society,** was born at Weston, La., September 23, 1870. He was educated in the local schools and attended the Louisville, Kentucky, Medical School in the year 1891-92, and then the Tulane University, graduating in 1894. He located at Hoods-Mills, La., practicing there 'till 1907. He first located at Dayton, New Mexico in 1907 and removed to Carlsbad in 1916. He does general practice. He is a member of the local and state medical societies and of the Southwestern Medical Association.

Dr. Culpepper has enjoyed an extensive practice but has always found time for organized medicine. He has rarely been absent from the state meetings. He is married. He is associated with Dr. L. H. Pate. We predict a profitable year for the New Mexico Medical Society under the guidance of Dr. Culpepper.

Dr. George W. Jones, president-elect, of the **New Mexico Medical Society,** has been in private practice since 1927. He located in Clovis in the year 1926 being employed by the Santa Fe Hospital Association.

He received his doctor of medicine from the University of Cincinnatti in 1925. He spent a year interneship at the Kansas City General Hospital. His pre-medical work was done at the University of Kansas. He attended Ward School and High School in Kansas City, Mo. His birth place was Council Grove, Kansas in 1900. He did post-graduate work in Vienna in 1927.

Dr. Jones served during the World War in the United States Marine Corps. He is a member of the County, State, and National Medical Associations and the American Legion. His social fraternity is Sigma Alpha Epsilon and his medical is Nu Sigm Nu. His practice is general with an inclination to surgery and x-ray. He is married and has two sons. Dr. Jones is enthusiastic about organized medicine and will make the New Mexico Medical Society an excellent president. His hobbys are golf, chess, and fishing.

First International Conference on Fever Therapy will be held at Columbia University New York City, September 29th to October 3rd, 1936. Baron Henri de Rothschild of Paris,

France, will be the chairman. The American Committee consists of Drs. Desjardins, Bierman, Hartman, Kinsie, Neymann, Simpson and Warren. The various therapeutic uses of heat will be discussed and the abstracts of the papers will be published in a volume in English, German, and French.

Information regarding this conference may be secured from the general secretary, Dr. William Bierman, 471 Park Avenue, New York City.

The American Board of Ophthalmology announces the removal of its executive offices to room 1002, Beaumont Medical Bldg., 3720 Washington Blvd., St. Louis, Mo. Dr. John Green, secretary-treasurer, announces that all candidates expecting to appear for examination in New York City on September 26th must file their applications and 10 case reports before July 25th.

The American Congress of Physical Therapy announces its 15th annual session September 7-11th at the Waldorf Astoria in New York City. In addition to an extensive program with sectional meetings and various specialties, there will be both technical and scientific exhibits and a full day of hospital clinics.

PUBLIC HEALTH NOTES

J. ROSSLYN EARP, DR. P. H.
Director, New Mexico State Bureau
of Public Health

Vaccination Against Tuberculosis: In marked contrast to the sensational stories in the lay press of condemned criminals submitted to scientific experiment are the scientific reports now appearing under the signatures of H. J. Corper and his fellow workers at the National Jewish Sanatorium in Denver.

Their observations are upon the reaction of the organism to live and killed, virulent and avirulent tubercle bacilli injected into the skin. Such observations have been made before. The present research carries us further in two respects: It is made on an exact quantitative basis which has not previously been possible, and observations made on animals have been repeated on man.

There is definite evidence of artificial immunity as shown by retardation of the lesions of experimental infection subsequent to the vaccinating dose. This immunity is probably independent of allergy since allergy results from the injection of killed bacilli and immunity only from the injection of viable bacilli. The immune effect requires time to develop and apparently is effective only against subsequent infections or metastases of previous lesions but not against the development of established lesions.

Avirulent human or bovine bacilli may be injected in the amount of 0.01 mg., sufficient to produce tubercle and immunity without producing ulceration. In this dose the bacilli lose their viability in from 4 to 6 months.

There is a biological specificity in the immunity to virulent bovine infection resulting from vaccination of animals with avirulent bovine bacilli. This suggests that in man greater protection against virulent human infection would be obtained by vaccination with avirulent human bacilli than with avirulent bovine bacilli (B. C. G.). There is also evidence that immunity would be reinforced by repeated intracutaneous injections.

This laboratory research indicates that vaccination may have a practical value in the prevention of tuberculosis. How great that value may be can be measured in the laboratory, but only by the clinician using statistical analysis. The methods used at the Henry Phipps Institute of the University of Philadelphia are capable of reliable evaluation of the practical success of vaccinating contacts of open cases of tuberculosis. The necessary control observations are already on record.

REFERENCES

Corper, H. J. et al.: Studies on the Behaviour of Tubercle Bacilli within the Body, Amer. Rev. Tuberc. 33:679, May, 1936.
Vaccination against Tuberculosis—A Comparative Study in Man and Animals, Jour. Infec. Dis. 58:158, March-April, 1936.
Opie, E. L. et al.: Studies in Tuberculosis V. and VI. The Am. Jour. of Hyg., 23:493-515, May, 1936.

SOUTHWESTERN MEDICAL ASSOCIATION

The Secretary's Column

Chairman of the program committee, Dr. E. W. Rheinheimer, reports that he has secured acceptance from speakers for the **post graduate program** for our November meeting representing the following specialties: Surgery and chest surgery, internal medicine, x-ray, industrial surgery, clinical laboratory and allergy, genito-urinary surgery and eye, ear, nose and throat.

After the program is actually prepared if there is sufficient time left to warrant it, Dr. Rheinheimer will invite an obstetrician.

All speakers hold chairs in Universities with a geographical distribution taking in Chicago, Richmond, Virginia, St. Louis, San Francisco, Kansas City and Denver.

As the budget permits more money to be spent on this program than previous ones, it naturally follows that we may expect a larger and more varied program and from teachers from greater geographical distribution.

The names of the speakers and their subjects will perhaps be announced in the next issue.

Eighty-seven members are still in arrears for their 1936 dues. With the majority of these members we are sure it is only an oversight. In accepting this notice as an earnest appeal to remit, each delinquent member will not only place himself in good standing but will conserve the funds of the association for we must now lay down a barrage of personal appeals which, of course, is expensive. Do it today.

MEDICAL ANNALS OF ARIZONA

HEALTH AMONG THE NAVAJOS

(Continued from page 273)

iron box-stove, and an old mattress. The comparatively few more progressive and better-to-do Indians live in sturdier, roomier hogans of two or three rooms, with an old bed or two, a crude table or stool and, on the walls, pictures from the society columns and gravure

sections of newspapers, or cheap portraits. There are a few inexpensive modern frame houses of a class corresponding to those found in the poor sections of small towns, but even these rarely have running water or bathrooms. It is common to find five, seven, or even more persons, including three to four adults, living in a single hogan. During a "sing" or healing ceremonial the hogan, about 12 feet in diameter, may for days house a dozen or more persons.

The diet of the people consists mainly of bread from hand-ground cornmeal, meat from goats and sheep, corn, a large variety of melons and desert peaches,and such canned goods as they can afford. They are heavy users of cheap coffee which contains a high percentage of chicory. Their means of keeping food are extremely unsanitary; the bread, flour and vegetables are kept in open containers on the ground, and the raw meats are hung inside or outdoors, exposed to flies and dusts. The water supply is uncertain and, in most instances, apparently impure. In the winter they depend largely on melted snow gathered in buckets. In the spring they trap water coming down the mountain into the canyons. During summer, when there is usually a serious scarcity of water, they depend upon a few artesian wells and windmills, and a few water holes or improvised dams in the canyons. Serious quarrels and fights at times occur between neighbors, even members of families, over the question of exclusive right to a water hole or small creek. There are no privies, and no other provisions for sewage or waste disposal than the open desert. Their method of covering personal excreta is animalistic—hurriedly kicking earth over it.

The Navajos, in the main, lead an outdoor life, except from about the first of December to the last of March. Nearly always during the day one finds the little Indians, ragged, barefooted and dirty, playing about the hogans with their dogs, young lambs, or with each other. They are a happy lot, readily embarrassed in the presence of white strangers. The adults go on long trips, perhaps trying to sell blankets; an Indian will ride his horse many miles, spending days in travel, to sell a blanket for a half dollar more than he can get from his near-by trader. They make long journeys to visit friends and while away their time lying in the shade. In the autumn they are outdoors, traveling to and from ceremonials, usually spending a few days at a ceremonial, sleeping in or under their wagons, or at a neighboring hogan. Within the last few years they have increased their truck-gardening. A few raise sufficient melons, corn and vegetables to sell or trade small quantities with their neighbors, the trading-post, or the nearby Federal school or agency.

Benefits to health from an outdoor life are over-balanced by the ill effects of, overcrowdinf, lack of sanitary provisions, and the poverty which leads to a poor, inadequate supply of food. The Navajos are one of the poorest of the many Indian tribes on Federal reservations. Prior to 1929 they derived income from royalties on oil leases—there has been comparatively little paying oil on the Navajo reservation—the sale of timber and grazing rights. The income from these went into the tribal treasury for the use and benefit of the tribe. Individual incomes were chiefly derived from the sale of sheep, wool, blankets, pinons gathered in the fall, silversmithing, and unskilled labor. Their blanket weaving and silversmithing are favorably known throughout the United States and a few years ago brought good prices. It has been estimated that in good times the average annual income per person was less than $500.00. Since 1929 the demand for their goods and wares is probably halved, and the price is half or less. As a result of reduced individual incomes the tribal funds were wiped out by 1933. A questionnaire from 450 married men with an average of 5.2 persons to a family, showed that they possessed 326 teams of horses, 221 pairs of harness and 178 wagons. The actual number of horses is probably higher because the question specified teams; nearly all Navajos have one or more saddle horses. They had a total of 29,976 sheep, or an average of 66.6 sheep to a family. According to the prices paid by the Government to the Indians in 1933, top prices for the grade, each family owned about a hundred dollars worth of sheep. The economic status of the Indian, however, is a story by itself.

(To be continued)

Stephen Schuster, President

EL PASO COUNTY SOCIETY DEPT.

L. O. Dutton, Secretary

EL PASO COUNTY HOSPITAL STAFF MEETING MAY 20, 1936

DISCUSSION OF CASES

Two case histories had been mailed to each member a few days before the meeting.

Case One: An American former school teacher, 74, entered the hospital March 24, 1936 with pain in right upper quadrant of 16 hours duration—cramping in nature and almost constant. He slept very little the night before admission. There was no vomiting, though nausea was constant.

Constipation had existed for several years. The stools at times had been dark, but never clay-colored.

Past History: About 1 year ago the patient had a "stroke" with right side paralyzed; recovery was slow. He still walks with difficulty. He had pneumonia, influenza and measles years ago. Part of his life has been spent in the Philippine Islands. He had been active most of his life.

Physical Examination: (Abnormal findings only.) He was fairly well nourished and developed; he appeared acutely ill. Temperature was 97.8, pulse 76, regular, blood pressure 140/90 and respiratory rate 18, regular but shallow.

Teeth were in poor condition, eye reflexes sluggish and sclerae jaundiced.

Abdomen was flat with voluntary rigidity and tenderness over the region of the gall bladder; skin was slightly jaundiced; nodes palpable; deep reflexes were absent, except of the right leg, and these were hyperactive; hearing was poor.

Laboratory Data: 3/24/36 wbc. 13,000. polys 90%, monocytes 5%, lymphocytes 5%; Kahn negative.

Urine acid, albumin 3-plus, red blood cells "few", white blood cells "few with clumps" and casts "few finely granular."

On 3/26/36, white count was 10,800, polys 84%, monocytes 4% and lymphocytes 14%.

On March 25 pain was slightly less. On March 27, though he felt better, he was irrational a part of the time; temperature remained around 100°. He became comatose and died on March 30.

Dr. Waite: All obtainable facts are presented in the above history.

Dr. Duncan: The best guess is coronary occlusion, but the record is too incomplete to make a diagnosis.

Dr. Hardy: This departure from the ordinary staff meeting program is most valuable and really worth while.

Pancreatitis is supposed to give pain in the left side instead of the right. It is not uncommon for cases of acute pancreatitis to slide over into diabetic coma, so in approaching this diagnosis from another angle we can say there is one dominant fact: He died in coma. It could be diabetic coma or nephritis or anything that would change the blood chemistry. The low blood pressure does not speak against the diagnosis of nephritic coma. Glycosuria with pain in the right upper quadrant does not fit in with diabetic coma, but might result from acute pancreatitis. My guess is hepatic degeneration. I think perhaps it might be yellow atrophy, probably subacute. However, the record does not show that the man was deeply jaundiced nor that the urine contained bile. Fitting more closely with the general course is hepatic coma, associated with obstruction of the biliary tract. Another important fact is that there is no statement as to whether the man had diaphragmatic spasm, but the statement of the cramping pain is characteristic of obstruction of the biliary tract; my guess is subacute liver degeneration.

Dr. Ralph Homan: This case closely parallels 2 cases we have had in the last several years, that could not be diagnosed as anything but arteriosclerosis—both in old persons. Both had low blood pressure. One showed multiple infarcts of the small and large intestines, and in the other very noticeable places in the liver. In both cases there had been paralysis a year or so before. I think that is a pretty fair guess in this case.

Dr. Gorman: The thing I would be particularly interested in knowing is the past gastro-intestinal history. The pain in the right upper quadrant might have been dull, or sharp. An abscess may have existed there; jaundice would have been possible at his age and with his temperature. The question of arteriosclerosis is probable considering his age and the recent stroke. He had a little fever, however, which needs explanation. In subacute hepatitis the jaundice should be more marked than reported and his pulse should be a little slower. I would like to know if he had had respiratory infections preceding this illness. Jaundice and infection of the biliary passages is not uncommon following respiratory diseases, especially at that age. I suggest an abscess in the right upper quadrant.

Dr. Dutton: There is one significant thing in the history: His residence in the Philippine islands, where there are a large number of tropical parasites, some of which invade the liver and could give a clinical picture comparable to this.

Dr. Boyle: I state in my defense that we tried to get a more complete history. The autopsy done by Dr. Waite revealed (positive findings only): Body is of an old white man of good size. The abdomen has excess clear fluid. The cecum is distended with gas. The gall bladder is adherent to the colon and duodenum and has no stones.

The right pleural cavity contains a large amount of serum and blood clot. The lung is partially col-

lapsed and has extensive hemorrhage in posterior portion beneath the pleura just anterior to the spine extending from apex to base reaching anteriorly. There is hemorrhage posteriorly in the left lung.

A large hematoma lies in the posterior mediastinum surrounding the descending thoracic aorta, reaching to the abdominal vessels. The posterior mediastinum is filled with clotted blood. On section marked patches of sclerosis are found in both the thoracic and the abdominal aortas. At about the level of the diaphragm there is a large perforation through into the posterior mediastinum apparently the source of the hemorrhage. From here it extended into the lungs and the right pleural space.

The kidneys are markedly cystic, and there is fat in the pelves. The mucosa of the stomach is pale. The pancreas is pale, and soft. The prostate is slightly enlarged. The heart is considerably enlarged, particularly the left ventricle—the muscle measuring 25 mm. in thickness.

Diagnosis: Arteriosclerosis of the aorta with ulcer; hemorrhage into posterior mediastinum and rupture into right pleural cavity; right hemothorax; right atelectasis; chronci pericholecysitis; and cystic and chronic nephritis.

Dr. Dutton called attention to the statement in the physical examination that the lungs were clear.

Dr. Waite showed colored moving pictures of the heart and aorta which showed very plainly the **point of rupture and the other findings** reported in the autopsy.

The second case is that of a Mexican mechanic, 52, who entered the hospital complaining of pain in the upper right quadrant, which he had had for 2 months, acidity and gas of stomach and "mahogany" colored urine for 6 to 8 months, light yellow stools for 1 month ,and a subcutaneous nodule in right lower quadrant for 3 weeks.

Two months ago the pain did not bother him much. The pain was dull around the costal margin. He had an increased fullness in the right upper quadrant for the past 2 months.

The nodule, very small at first, has now grown to the size of a grape.

Past History: Negative.

Physical Examination: (Positive findings only) He is poorly nourished and developed, and appears acutely ill. Temperature is 99.4°, pulse 96, of poor volume, respiration 20, normal, and blood pressure 125/85. There is slight jaundice shown in the eyes. The diaphragm is slightly elevated on the right.

Heart: No abnormalities of rate or rhythm. No murmurs.

Abdomen: The abdomen is generally distended, especially full in the right upper quadrant. The liver is enlarged 4 fingerbreadths below the costal margin, non-nodular. In the right lower quadrant is a hard subcutaneous nodule the size of a grape and the skin is adherent to it.

Laboratory Findings: wbc. 13,000, 90% polymorphonuclear, 2% monocytes, 8% lympocytes. Blood Kahn and urine, and stool were negative. HNO_3 test for bile was positive.

Van den Bergh: Direct reaction began immediately, and was complete in 3 minutes. Indirect: 15 van den Bergh units. Icteric index was 25.

A film of the chest on 4/13/36 showed extensive pleurisy on the right side, with interlobular pleurisy. G. I. series was negative. The patient gradually became worse, and on his 10th day in the hospital became jaundiced all over, and died at 7:45 a. m. on his 11th day in the hospital.

Dr. Waite: This 2nd case had pain in the upper quadrant, but with a different type of history than that of the 1st case.

Dr. Green: With the history of chronic gastric symptoms over a long period with recent yellow stools, makes certain, I think, that there is obstruction in the pyloric tract. Due to the fact that there is a little elevation of temperature I think we have to consider an abscess of the gall bladder. There is undoubtedly also a hepatitis. He has an enlarged liver. I think undoubtedly there is obstruction of the pyloric system.

DR. HARDY: There is an enlarged, tender liver; the man is emaciated; and certainly the clinical picture is that of malignancy. My guess is carcinoma of the liver with metastasis to the stomach.

Dr. Waite: Carcinoma of the liver as a rule does not metastasize.

Dr. Hardy: Possibly it metastasized from the stomach.

Dr. Cummins: Possibly there was a subphrenic abscess. My guess would be malignancy. This nodule probably was malignant. I suspect he had malignancy of the liver, with probable metastasis to the pleural cavity.

Dr. Ralph Homan: This case sounds like cases we used to have for study. The histories were a little different, but in every case it was carcinoma at the head of the pancreas.

Dr. Waite: I think there is no question in anyone's mind but that this is malignancy. Now may we have the postmortem report?

Dr. Robbins: The autopsy report (by Dr. Waite) (positive findings only) is as follows:

Body is that of an emaciated, jaundiced Mexican with a small skin wound in the right side.

The abdomen is filled with bloody fluid. The liver is markedly enlarged nodular and mottled. The duodenum is adherent in the gall bladder area to what seemed to be gall bladder but later proved not to be. On section of the stomach and duodenum, there are no lesions. The prostate is not enlarged. The kidneys present no gross lesions. The liver is removed and is about twice normal size. The area from which hemorrhage occurred cannot be located.

The gall bladder is imbedded in a growth, and the walls are markedly thickened, containing one large gall stone.

On opening the chest the right lung is extensively bound to the diaphragm with fibrous adhesions. Numerous small hard nodules are scattered through the lungs.

Microscopic Examination: Section of gall bladder shows the wall markedly thickened and infiltrated with a new growth made up of epithelial cells with an attempt at glandular arrangement.

Section of the liver shows an extensive new growth like that seen in the gall bladder. There are a few areas of liver cells remaining and these are deeply bile-stained. In some areas there is hemorrhage with necrosis.

Diagnosis: Carcinoma of gall bladder with metastasis to liver, lungs ,and coeliac nodes; acute abdominal hemorrhage.

Dr. Waite showed colored motion pictures of the liver and gall bladder illustrating the above findings.

Dr. Hardy: I congratulate Dr. Waite on this innovation. If everyone cooperates we can make this a good teaching institution. There is one thing, however, that I would like to say. I am not ambiguously criticizing, but these 2 histories (though I must admit they compare favorably with the ones I take) are not complete, and contain inaccuracies that are misleading. For example, it does not seem possible in the 1st case that the liver was not palpable. In the 2nd case no mention was made of fluid in the peritoneal cavity.

Dr. Ralph Homan: I want to say one thing for the intern on that first case. I think in making up this case history not enough attention was paid to the chart; numerous mention was made on the chart that the man was irrational and that it was impossible to get a history.

Dr. Morrison: I saw the 2nd patient in the evening before he died; he did not seem in a very bad condition; the abdomen was soft and flat. A few hours later he was dead. Evidently he had a hemorrhage after that—dying in a few hours; that is the reason no mention was made of fluid in the peritoneal cavity.

Dr. Awe: There is one suggestion: In the 2nd case a hemoglobin determination and a red count might have been of value.

A separate children's ward is being planned at the Masonic Hospital. The El Paso Junior League are sponsoring the crippled children attention. Drs. Frank Goodwin and Felix Miller are the surgeons in charge of the crippled children and most of the operative work is done by Dr. Goodwin. The board and staff of the Masonic Hospital are interested and are cooperating with the El Paso Junior League.

Dr. Vandevere fished at Guaymas and brought back a good collection of fish—stories.

The City of El Paso will probably soon have a baby clinic known as the "Dr. J. A. Rawlings Baby Clinic." Over 7000 dollars have been subscribed toward this project. Dr. McCamant city health physician, has the matter entirely in hand and will see that the clinic is completely and modernly equipped for the purpose of handling the feeding problems of children. The clinic probably will be located in the eastern portion of the city near Alameda avenue.

Dr. McCamant again has won the award in his district for the best work done in public health and hygiene, having received it last year.

M. B. Culpepper
Pres., Las Cruces

NEW MEXICO SOCIETY DEPT.

L. B. Cohenour,
Sec., Albuquerque

Notes of the Fifty-fourth Annual Session. Carlsbad. N. M.. May 6-8. 1936

The 54th annual session of the New Mexico Medical Society marked an innovation in the annals of the society in that the meeting was held jointly with that of the New Mexico Public Health Association. This brought together noted physicians and sanitarians from near and far. facilitated the work of both organizations and created a much larger attendance than if separate meetings had been held.

Registration headquarters and meetings were held in the Crawford Hotel—the beautiful "Crystal" ballroom, being for the medical sections and the scientific sessions.

The Eddy-Lea and Chaves counties medical societies sponsored and arranged an interesting and instructive program, with scientific papers by men prominent in their respective fields. The members of the program committee were:

Drs. L. H. Pate, chairman, Carlsbad; W. F. Glasier, vice-chairman, Carlsbad; F. F. Doepp. Carlsbad; H. A. Stroup, Artesia; C. A. Russell, Artesia; C. L. Womack, Artesia; F. H. Austin, Carlsbad; J. W. Hillsman, Carlsbad; O. E. Puckett, Carlsbad; D. D. Swearingin, Roswell; C. S. Stone, Hobbs; and R. L. Bradley, Roswell.

Delightful diversion was provided by the entertainment committee in the annual banquet on Thursday night, at which Dr. A. P. Terrell, (Hobbs), acted as toastmaster. Members of the entertainment committee were:

Drs. F. F. Doepp, chairman, Carlsbad; J. W. Hillsman, Carlsbad; F. H. Austin, Carlsbad.

The banquet committee were:

Mesdames, M. B. Culpepper, chairman, W. F. Glasier, O. E. Puckett, L. H. Pate, F. F. Doepp, J. W. Hillsman and F. H. Austin.

The visiting ladies were entertained at a tea by Mrs. W. F. Glasier, at her home, on Wednesday

afternoon, May 6th, and on May 7th, Thursday afternoon, a bridge luncheon was given by Mrs. M. B. Culpepper.

The concluding session of the meeting, on Friday, May 8th, was held in the Carlsbad Cavern.

IMPORTANT BUSINESS TRANSACTED

New Members Elected: Drs. H. B. Johnson, Hot Springs; Harrison Eilers, Mountainair; and Richard D. Bartels, Socorro.

MOTIONS PASSED

That Lea County Society and Eddy County Society be authorized to combine under the name of Eddy-Lea County Society, as provided for in Chapter 7, Section 4, of the constitution and by-laws of the society.

That the secretary request the business manager of Southwestern Medicine to furnish annually, prior to the meeting of the New Mexico Medical Society, a financial statement of the affairs of Southwestern Medicine.

That the society endorse the plan proposed by the American Red Cross to establish first-aid stations along National highways.

That the society accept the invitation of the Colorado State Society for holding a general meeting in Denver, sometime in midsummer, 1937, with the understanding that such action does not in any way affect the society's affiliation with the Southwestern Medical Association.

That the three plans suggested by Mr. F. Guthrie, state director of New Mexico Relief and Security, for medical care of indigents, have the approval of the society, and the adoption of the particular plan applicable to any particular community, be left to the members in that community.

That a resolution introduced relating to the State Public Health Service be tabled indefinitely and a committee of three be appointed to confer with Dr. Earp of the Bureau of Public Health, to work out a solution for the problem in public health.

RESOLUTIONS ADOPTED

WHEREAS, Divine intervention has ended the active practice of members of the New Mexico Medical Society during the past year, who in their passing have taken from us valuable friendships and associations,

AND WHEREAS, these physicians have left us only our memories and the deep impress they made upon patients and friends,

THEREFORE, BE IT RESOLVED, the New Mexico Medical Society in regular annual session expresses deep sorrow because of the loss which it has sustained in the passing of

Dr. W. T. Brown, Valmora,
Dr. W. G. Hope, Albuquerque,
Dr. W. E. Rice, Raton,
Dr. Frank H. Johnson, Carrizozo,
Dr. Dildy M. Austin, Belen,
Dr. R. L. Butler, Clovis.

BE IT FURTHER RESOLVED, That the minutes of our meeting bear the expression of these sentiments and that appropriate indication be sent to the families of the deceased.

(Signed) W. R. Lovelace,
George T. Calvard,
E. F. McIntyre,
Committee.

RESOLVED: We, the New Mexico Medical Society, in its 54th annual session, at Carlsbad, May 6th, 7th and 8th, 1936, wish to thank:

1. The Carlsbad Chamber of Commerce for the many courtesies extended and the beautiful flowers;

2. The Daily Current-Argus for the publicity given the association;

3. The Eddy County Medical Society for the excellent entertainment;

4. The Crawford and La Caverna hotels for making their facilities available and the Crawford hotel for extending the use of their rooms for meeting places;

NEUROLOGICAL HOSPITAL

Kansas City, Missouri

Modern Hospitalization of Nervous and Mental Illnessses, Alcoholism and Drug Addiction.

THE ROBINSON CLINIC

G. WILSE ROBINSON, M. D.
Medical Director
G. WILSE ROBINSON, Jr., M. D.
Superintendent

5. The ladies of the Eddy County Medical Society for the entertainment afforded the wives of visiting doctors in the homes of Mrs. Culpepper and Mrs. Glazier;

6. The Coca-Cola Company for the Coca-Cola provided;

7. Colonel Boles for the use of the Carlsbad Caverns as the meeting-place for the last day's session.

Signed: The Resolution Committee,
Chairman, C. A. Miller, M. D.,
W. R. Lovelace, M. D.
Chas. F. Beeson, M. D.

OFFICERS FOR 1937

President-elect: Dr. G. W. Jones, Clovis; Vice-president: Dr. W. R. Lovelace, Albuquerque; Secretary-treasurer: Dr. L. B. Cohenour, Albuquerque, (re-elected); Councillors for three years: Dr. H. A. Miller, Clovis, (re-elected) and Dr. C. F. Beeson, Roswell: Delegate to A.M.A. for two years: Dr. H. A. Miller, Clovis; Alternate: Dr. W. R. Lovelace, Albuquerque; Board of Managers, Southwestern Medicine: Dr. J. R. Earp, Santa Fe; Dr. C. H. Gellenthein, Valmore, (re-elected.)

Meeting place for 1937: Clovis, N. M.

COMMITTEES APPOINTED

Necrology: Drs. W. R. Lovelace, Albuquerque; E. F. McIntyre, Santa Fe; and George Colvard, Deming.

Thanks: Drs. C. A. Miller, Las Cruces; W. R. Lovelace, Albuquerque; and C. F. Beeson, Roswell.

Medical Relief (continued): Drs. Carl Mulky, Albuquerque; R. L. Bradley, Roswell; V. E. Birchtold, Santa Fe; F. H. Crail, Las Vegas; and George Colvard, Deming.

Medical Defense (Continued:) Drs. W. R. Lovelace, Albuquerque; Carl Mulky, Albuquerque; L. B. Cohenour, Albuquerque; F. F. Doepp, Carlsbad; and C. H. Gellenthien. Valmora.

Rocky Mountain Conference Meeting: Drs. H. R. Miller, Clovis; C. A. Miller, Las Cruces; and L. B. Cohenour, Albuquerque.

Public Health Conference: Drs. Carl Mulky, Albuquerque; W. H. Livingston, Santa Fe; and George Colvard, Deming.

Expressions of regret at inability to be present at the meeting were received from Drs. C. W. Gerber, president, Las Cruces, and R. L. Bradley, Roswell.

Among those present were:

Atwater, Reginald M., American Public Health Association; Austin, F. H., Carlsbad, N. M.; Atwood,C. S., Buffalo, N. Y.; Bryan, O. J., Pecos, Texas; Burch, A. J., Reserve, N. M.; Beeson, Charles F., Roswell, N. M.; Brown, A. E., Rochester, Minn.; Bauer, W. W., Chicago, Ill.; Cohenour, L. B.; Albuquerque, N. M.; Colvard, George T., Deming, N. M.; Culpepper, M. B. Carlsbad, N. M.; Cooke, Willard R., Galveston, Texas; Clark, F. A., Washington, D. C.; Cathcart, J. W., El Paso, Texas; Diver, F. C., Springer, N. M.; Dewey, L. A., Santa Fe, N. M.; Doepp. F. F.; Carlsbad, N. M.; Earp, J. R. Santa Fe, N. M.; Evans, Leland S., Las Cruces, N. M.; Epler, Crum, Pueblo, Colo.; Foster, R. I.; Flude, J. M. Hollywood, Cal.; Gardeno, J. L., Albuquerque, N. M.; Glasier, W. F., Carlsbad, N. M.; Gorman, James J. El Paso, Texas; Goodwin, Frank C., El Paso, Texas; Hall, H. H., Los Angeles, Cal.; Hillsman, J. W., Carlsbad, N. M.; Hemphill, C. H., Tularosa, N. M.; Hensley, E. T., Portales, N. M.; Hoover, L. E., Carlsbad, N. M.; Hodde, H. W., Hobbs, N. M.; Ingraham, C. B., Denver, Colo.; Jones, George W., Clovis, N. M.; Jones, B. Logan, Fort Bayard, N. M.; Lingenfelter, G. P., Denver, Colo.; Littell, George S., Santa Fe, N. M.; Lamo, Jr., J. D., Albuquerque, N. M.; Long, Julian O., Belen, N. M.; Miller, C. A., Las Cruces, N. M.; Mulky, Carl, Albuquerque, N. M.; Meyer, J. G., San Francisco, Cal.; Mayer, Karl, San Francisco, Cal.; McAlmon, George A., El Paso, Texas; Moore C. H., Conches Dam, N. M.; McCamant, T. J., El Paso Texas; Miller, H. A., Clovis, N.M.; Mills, James T., Dallas, Texas; Martin, Charles L., Dallas, Texas; Multhauf, A. W., El Paso, Texas; Murphy, J. L., El Paso, Texas;McIntyre, E. F., Santa Fe, N. M.; Murphy, A. G., Ignacia, Colo.; MacWhorter, J. H. El Paso, Teaxs; Moore, John, Houston, Texas; Nash, Cleve C., Dallas, Texas; O' Rourke, Donald H., Denver, Colo.; Puckett, O. E., Carlsbad, N. M.; Pate, L. H., Carlsbad, N. M.; Peters, W. W., Navajo Agency, Ariz.; Parker, Jr., F. W., Clovis, N. M.; Paton, Donald, M., Galveston, Texas; Palmer, E. Payne, Phoenix, Ariz.; Phillips, W. W., Roswell, N. M.; Pate, H. L., Hobbs, N. M.; Russell, C. A., Artesia, N. M.; Smith, Leslie, El Paso, Texas; Standerfer, Fred W., Lubbock, Texas; Schofield, Ben L., Dallas, Texas; Scott, James R., Albuquerque, N. M.; Stone, C. S. Hobbs, N. M.; Sween-

ey, J. Shirley, Dallas, Texas; Sethmai, Harvey, Denver, Colo.; Sims, E. P., Alamogordo, N. M.; Stroup, H. A. Artesia, N. M.; Swearingin, D. D., Roswell, N. M.; Terrell, A. P., Hobbs, N. M.; Tighe, D. O., Evansville, Ind.; Turner, George, El Paso, Texas; Troxler, L. B., San Francisco, Cal.; Thaxton, W. M., Tucumcari, N. M.; Vickers, G. D., Deming, N. M.; Wolfson, D. A., Portales, N. M.; Womack, C. L., Artesia, N. M.; Watkins, W. Warner, Phoenix, Ariz.

Dr. Paul C. Carley, specialist in venereal disease control work of the United States Public Health Service is being assigned by the Surgeon General for service in New Mexico during the late summer or early fall for a month. Requests for his services should be made as soon as possible to Dr. L. A. Dewey of the State Public Health Bureau in order that a schedule may be prepared at an early date for Dr. Carley. (New Mexico Health Officer 6:16 June 1936.)

J. D. Hamer, President

ARIZONA STATE ASSOCIATION DEPT.

D. F. Harbridge, Secretary

NEWS ITEMS

Dr. Charles W. Sult, Jr., son of Dr. and Mrs. Charles W. Sult, 3008 N. 2nd St., Phoenix, was graduated from Creighton University at Omaha in June and will start his interneship at the Los Angeles General Hospital about July 1st. Dr. Sult's mother was in Omaha for the graduation exercises.

Dr. Robert S. Flinn, of Phoenix, Arizona, spoke before the 20-30 club on June 2nd upon the heart and its diseases.

Dr. Taylor T. Hicks' automobile recently became extremely independent, rolled across a Prescott street, mounted a curb and slammed into a doghouse, pushing it down a steep incline into a neighbor's residence.

Dr. H. W. Hussong, city health officer of Phoenix, Arizona, and wife visited his parents in Camden, N. Y., in June.

Dr. Clarence E. Yount, Jr., son of Dr. and Mrs. Clarence E. Yount, of Prescott, Arizona, married Miss Florence Brookhart, daughter of former Sen. Smith W. Brookhart of Iowa, June 2nd of this year. The ceremony took place in Washington, Ia., and the parents and a sister of the groom were present at the wedding. Dr. Yount and his bride are both doctors of medicine, graduates of George Washington University at Washington, D. C., in the class of 1934 and both expect to practice medicine in Prescott.

Dr. Fred E. Cooley, Jr., of Phoenix, Ariz., visited with his parents for a few days in June and then left for Fresno, California to serve an interneship in the Fresno General Hospital. Fred is a graduate of the Phoenix Union High School and Phoenix Junior College and the University of Southern California. He received his M. D. degree this spring from the St. Louis University.

Dr. N. B. Durfee, city health officer of Bisbee, wife and son spent a few days in Phoenix in June. Dr. Durfee is president of the Arizona Public Health Association.

Trademark Registered **STORM** Trademark Registered

Binder and Abdominal Supporter

gives perfect uplift and is worn with comfort and satisfaction. Made of Cotton, Linen or Silk. Washable as underwear. There are three distinct types and many variations of each type.

Picture Shows "Type N"

FOR PTOSIS, HERNIA, PREGNANCY, OBESITY, SACRO-ILIAC RELAXATIONS, HIGH AND LOW OPERATIONS, ETC.

Each Belt Made to Order Ask for Literature

Katherine L. Storm, M.D.

Originator, Owner and Maker

1701 Diamond St., Philadelphia, Pa., U. S. A.

Would you like to save

50%

in the cost of your insurance?

Why not patronize Associations composed exclusively of your brother practitioners--whose aim is to pay claims and not to incur heavy operating expenses?

$1,350,000.00 Assets

($200,000.00 on deposit with State of Nebraska for protection of all members.)

$650 for benefits to $1.00 for operating expenses

PHYSICIANS CASUALTY ASSN.
PHYSICIANS HEALTH ASSN.

400 - 1st Nat'l. Bank Bldg.

Omaha, Nebraska

Dr. Joseph Bank left June 17th to be gone about a month on a clinical trip visiting among other places the University of Chicago and the University of Pennsylvania.

Dr. and Mrs. A. L. Gustetter of Nogales left June 1st, for Cleveland to attend the Republican convention. Following the convention they visited New York and other eastern cities, later attending the Rotary International convention at Atlantic City, the doctor being a delegate from the Nogales Rotary club. It is rumored that the doctor also attended the Democratic convention in Philadelphia. They returned home July 1st.

Dr. E. C. Houle was a Phoenix visitor early in June.

Dr. and Mrs. Charles S. Smith of Nogales are leaving early in July for Denver where the doctor will attend the mid-summer clinical course in ophthalmology and oto-laryngology.

Drs. J. S. Gonzales and Z. B. Noon attended a clinic in Tucson recently.

The Faculty Council of the College of Medicine, University of Cincinnati on May 26, 1936, unanimously voted the James M. Stacey Award which consists of a medal and an honorarium of $100.00 to Bernard Langdon Wyatt, M. D. of Tucson, Ariz., for significant contributions in the field of focal infection.

Dr. Jack Flinn of Prescott, brother of Dr. Robert S. Flinn of Phoenix, and Miss Geraldine Giroux were married in the St. Francis Xavier chapel Thursday morning, June 4th in Phoenix. Dr. Robert Flinn attended his brother as best man.

The Maricopa County Medical Society voted to request the city commission to pass an ordinance forbidding unpasteurized milk to be sold in the city of Phoenix. Dr. Fred Holmes is chairman of the committee to further this activitiy. Cards have been printed which are given to the restaurants which handle no raw milk so stating upon the card. Also the card says the Maricopa County Medical Society disapproves the use of raw milk.

Dr. Benjamin Herzberg, who was unfortunate enough to have an automobile accident on Dec. 6, 1934, in which Margaret Owen was killed, and was sued for 10,000 dollars and judgment rendered of 250 dollars, has had the case reopened against him and will have to have another trial.

Dr. and Mrs. James Lytton-Smith are building a new home in Country Club Manor which is a tract east of the Country Club district. It is a 2-story house and will be air conditioned.

Dr. Nelson D. Brayton has announced he is a candidate for election to the Arizona House of Representatives from his district. He is also an alternate delegate to the Philadelphia convention of the Democratic party.

Dr. and Mrs. W. P. Sherrill are building a new home on their ranch south of Indian School Road near 29th St.

Dr. Gerald Lewis has resigned as assistant Maricopa county physician and has opened offices in the Goodrich Bldg.

Dr. George B. Irvine, Tempe, Arizona, is examining the babies in the Well Babies Conference some time during this month, checking the weight and height of the children brought to the clinic.

Dr. and Mrs. Howard M. Purcell of Phoenix are spent two weeks vacation during July at the Yellowstone National Park.

BOOK REVIEWS

EXOPHTHALMIC GOITER AND ITS MEDICAL TREATMENT by Israel Bram, M. D.. Medical Director Bram Institute for the Treatment of Goiter and other Diseases of the Ductless Glands, Upland, Pa., formerly Instructor in Clinical Medicine, Jefferson Medical College, Philadelphia, member of the Association for the Study of Internal Secretions, The Americal Asosciation for the Study of Goiter, etc.; The C. V. Mosby Company; St. Louis, Mo.; 1936; Price $6.00.

Dr. Bram has been treating exophthalmic goiter for the last 25 years in the belief that it is entirely a medical condition. This is a second edition appearing 16 years after the first. The author evidently has the faith of his convictions.

He holds that the disorder is constitutional and emphasizes that constitutional therapy is the answer rather than surgery and destructive radiation. Dr. Bram's book should be familiar to every person who treats goiter though he believes thoroughly in therapeutic surgery for exophthalmic goiter.

The book has 456 pages and is divided into 22 chapters. He speaks of psychic trauma as a predisposing factor in the etiology of the disease; then he discusses circulatory and nervous symptoms, types, laboratory tests, course of treatment. of rest exercises, and related measures, diet and drugs. Chapter 21 is devoted to end results on medical treatment of goiter and he gives case histories of discharged patients.

There are 79 splendid illustrations and the book has an unusually readable type.

DISEASES OF THE RESPIRATORY TRACT: Clinical lectures of the Eighth Annual Graduate Fortnight of the New York Academy of Medicine; by 21 contributors; 418 pages with 56 illustrations; Philadelphia & London; W. B. Saunders Company, 1936; Cloth $5.50 net.

The Academy of Medicine of New York was organized more than 80 years ago. The organizers promulgated 4 objectives one of which was the cultivation of the science of medicine. The other three are :A library, scientific meetings, and the recently inaugurated course of lectures to the public. The cultivation of the science of medicine is being attempted for the first time in this volume, which offers to the profession the advances in medicine in the disease of the respiratory tract so that "the busy practitioner may be informed from authoritative sources as to the last word on a given topic."

There are 20 subjects dealt with in this volume and are by authors of whom we mention such well known names as: Maximilian A. Ramierez, Charles T. Porter, Chevalier L. Jackson, Charles Hendee Smith, James Alexander Miller, Arnold Rice Rich, David Riesman, Howard Lilienthal, and Yandell Henderson.

Every physician especially interested in chest work will find this symposium volume most valuable.

X-RAY TECHNICIAN and Biological Photographer, young man, age 27, 3 years experience in New York City hospitals, wants position in hospital or with physician or clinic. Will go anywhere. Address H. N. A., Box 41, State College, New Mexico.

PROOF — NOT CLAIMS

DISTINGUISH PHILIP MORRIS

TESTS were made on men and women with irritation of the nose and throat due to cigarette smoking.

On changing to cigarettes in which diethylene glycol was used as the hygroscopic agent (Philip Morris), the majority of cases cleared completely. All of the others definitely improved.*

No claim is made that Philip Morris cigarettes cure irritation. Glycerine, shown to be a source of irritation generally present in cigarettes, is not present in Philip Morris.**

★ *Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*
★★ *Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245*
N. Y. State Jour. Med., Vol. 35, No. 11,590
Arch. Otolaryngology, March 1936, Vol. 23, No. 3, 306-309

Philip Morris & Co. Ltd. Inc. **Fifth Ave., N.Y.**

PHILIP MORRIS & CO. LTD. INC.
119 FIFTH AVENUE NEW YORK

Absolutely without charge or obligation of any kind, please mail to me

★ Reprint of papers from N. Y. State Jour. Med. 1935, 35— No. 11,590; Laryngoscope 1935 XLV, 149-154. Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245. ☐

★★ For my personal use, 2 packages of Philip Morris Cigarettes, English Blend. ☐

SIGNED: _____

ADDRESS _____

CITY _____ STATE _____

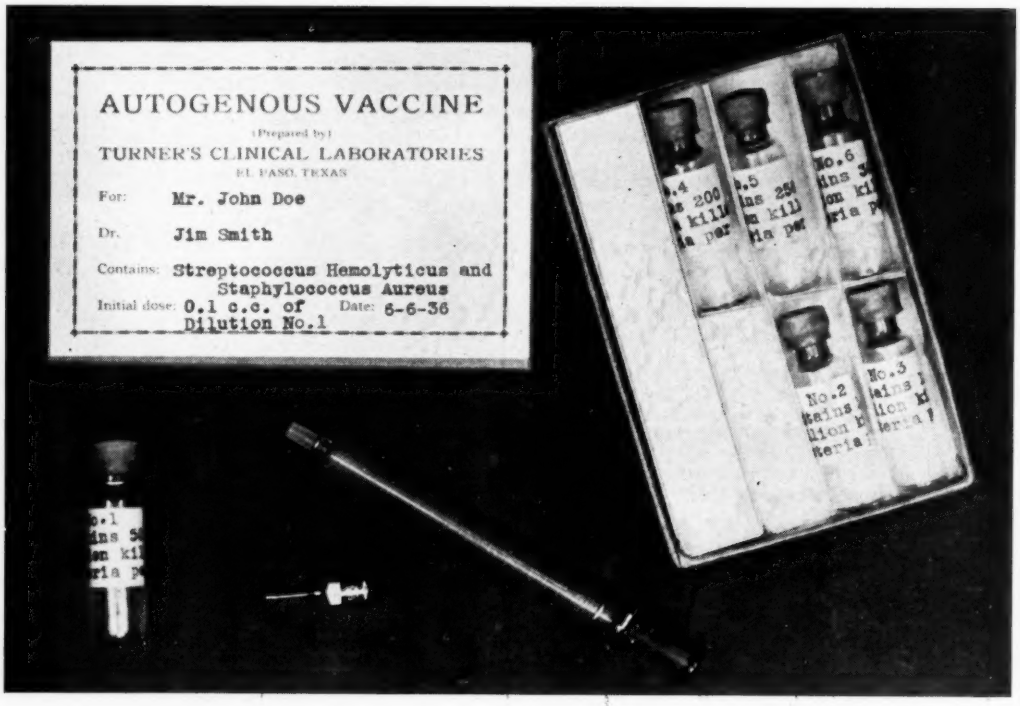
SOU

AUTOGENOUS VACCINES

CHRONIC INFECTIONS requiring the use of vaccines are better treated with bacterial antigen prepared from a culture from the offending lesion.

CONTAINERS for proper collection and mailing of materials for culture supplied promptly on request.

AUTOGENOUS VACCINES carefully prepared by the phenolization method, which experience thruout this country has proved to be superior.


AUTOGENOUS VACCINE
(Prepared by)
TURNER'S CLINICAL LABORATORIES
EL PASO, TEXAS
For: Mr. John Doe
Dr. Jim Smith
Contains: Streptococcus Hemolyticus and Staphylococcus Aureus
Initial dose: 0.1 c.c. of Dilution No.1 Date: 6-6-36

PACKAGE contains vaccine in six dilutions, together with syringe. Price: $10.00.

Turner's Clinical and X-Ray Laboratories

First National Bank Building

El Paso, Texas